

POWERWARE® 9
PRESTIGE SERIES

User's Guide

4500/6000 VA

www.powerware.com

FCC Statement

The Powerware® 9 Prestige Series UPS configurations vary. Some configurations may or may not be classified by the Federal Communications Commission (FCC). If your Prestige unit is classified by these standards, the corresponding information applies:

Class A

NOTE This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

European EMC Statement

Some configurations are classified under EN50091-2 as "Class-A UPS for Unrestricted Sales Distribution." For these configurations, the following applies:

WARNING This is a Class A-UPS Product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take additional measures.

Requesting a Declaration of Conformity

Units that are labeled with a CE mark comply with the following harmonic standards and EU directives:

- Harmonized Standards: EN 50091-1-1 and EN 50091-2; IEC 950 Second Edition, Amendments A1, A2, A3, and A4
- EU Directives: 73/23/EEC, Council Directive on equipment designed for use within certain voltage limits
  93/68/EEC, Amending Directive 73/23/EEC
  89/336/EEC, Council Directive relating to electromagnetic compatibility
  92/31/EEC, Amending Directive 89/336/EEC relating to EMC

The EC Declaration of Conformity is available upon request for products with a CE mark. For copies of the EC Declaration of Conformity, contact:

Powerware Corporation
Koskelontie 13
FIN-02920 Espoo
Finland
Phone: +358-9-452 661
Fax: +358-9-452 665 68

US Patents 6,069,412
5,424,936
4,980,812

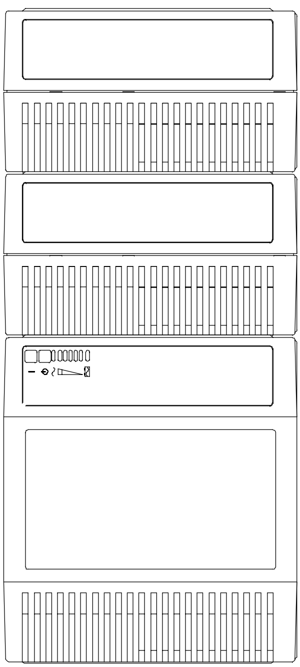


UPS Quick Installation

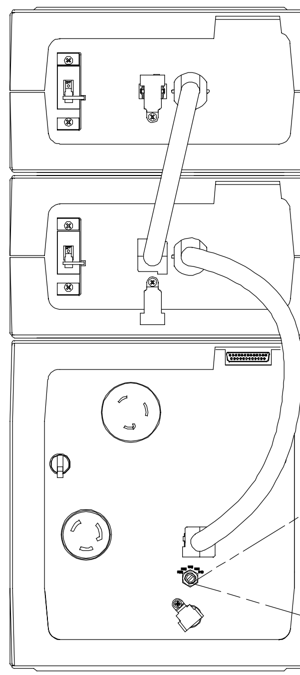
CAUTION

Read the safety instructions beginning on page 5 before installing the UPS.

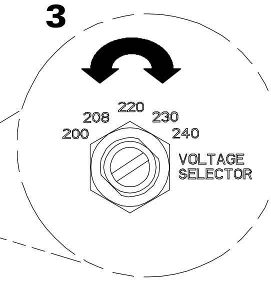
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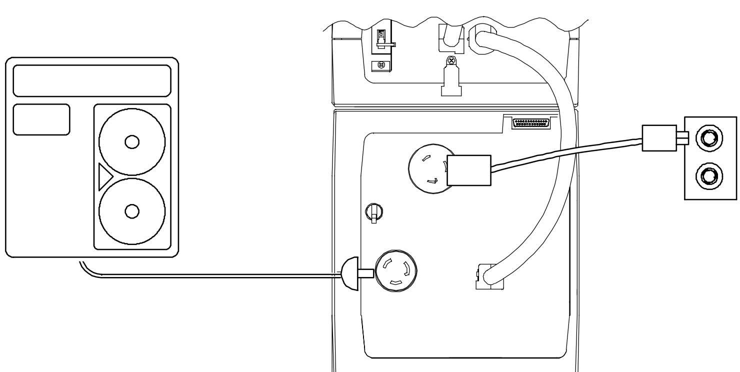
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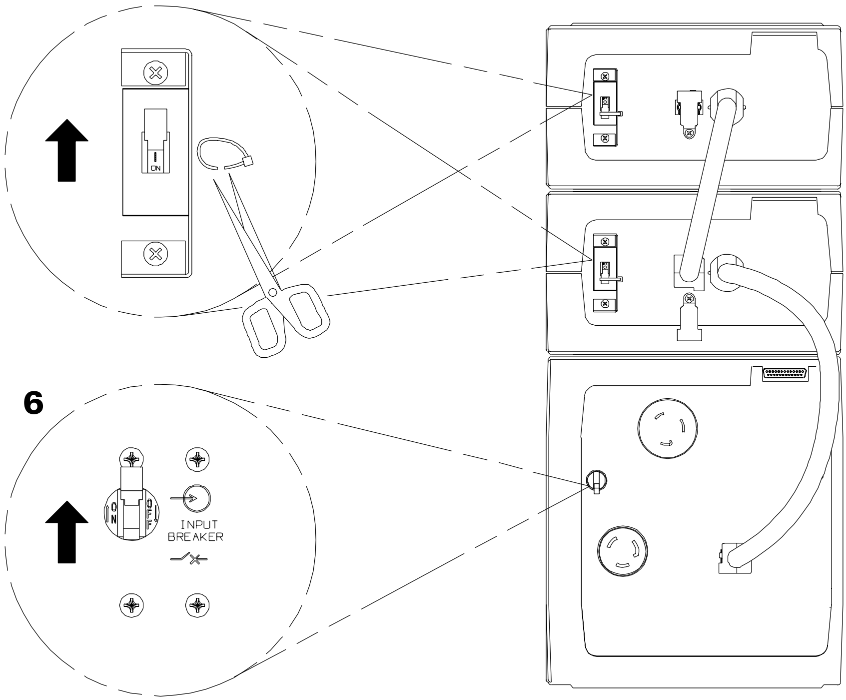


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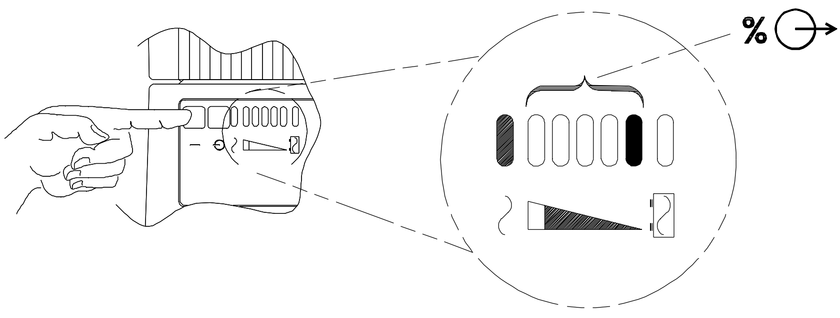


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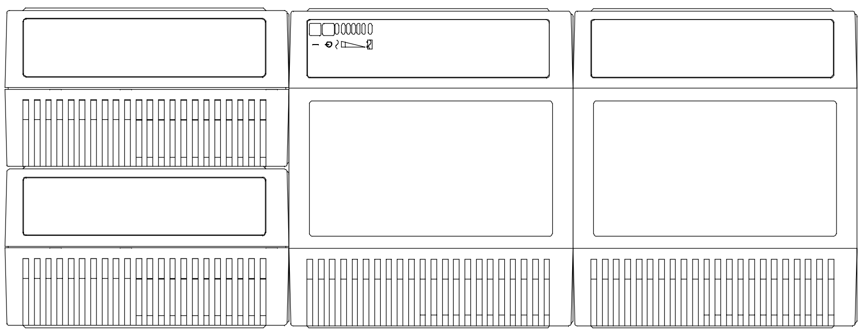


UPS with Optional PPDM Quick Installation

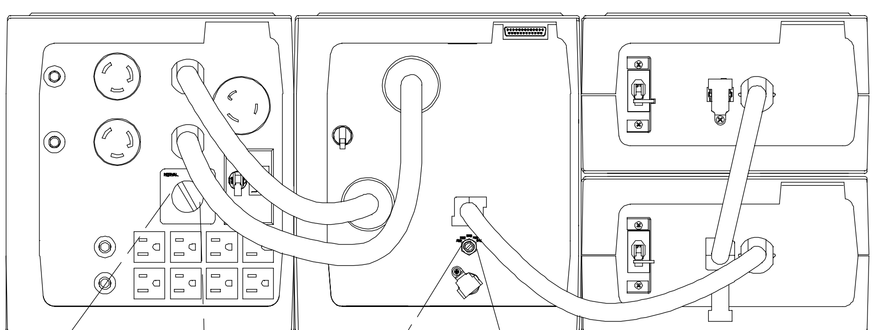
CAUTION

Read the safety instructions beginning on page 5 before installing the UPS.

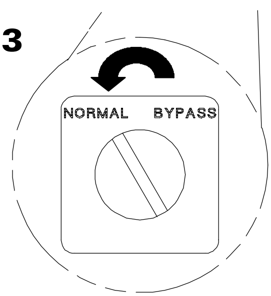
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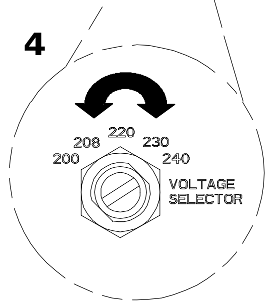
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3



4



PowerPass Distribution Model Number	Desired Output Voltage	Voltage Selector Position
208: ___	120/208V	208
	100/200V	200
240: ___	110/220V	220
	115/230V	230
	120/240V	240

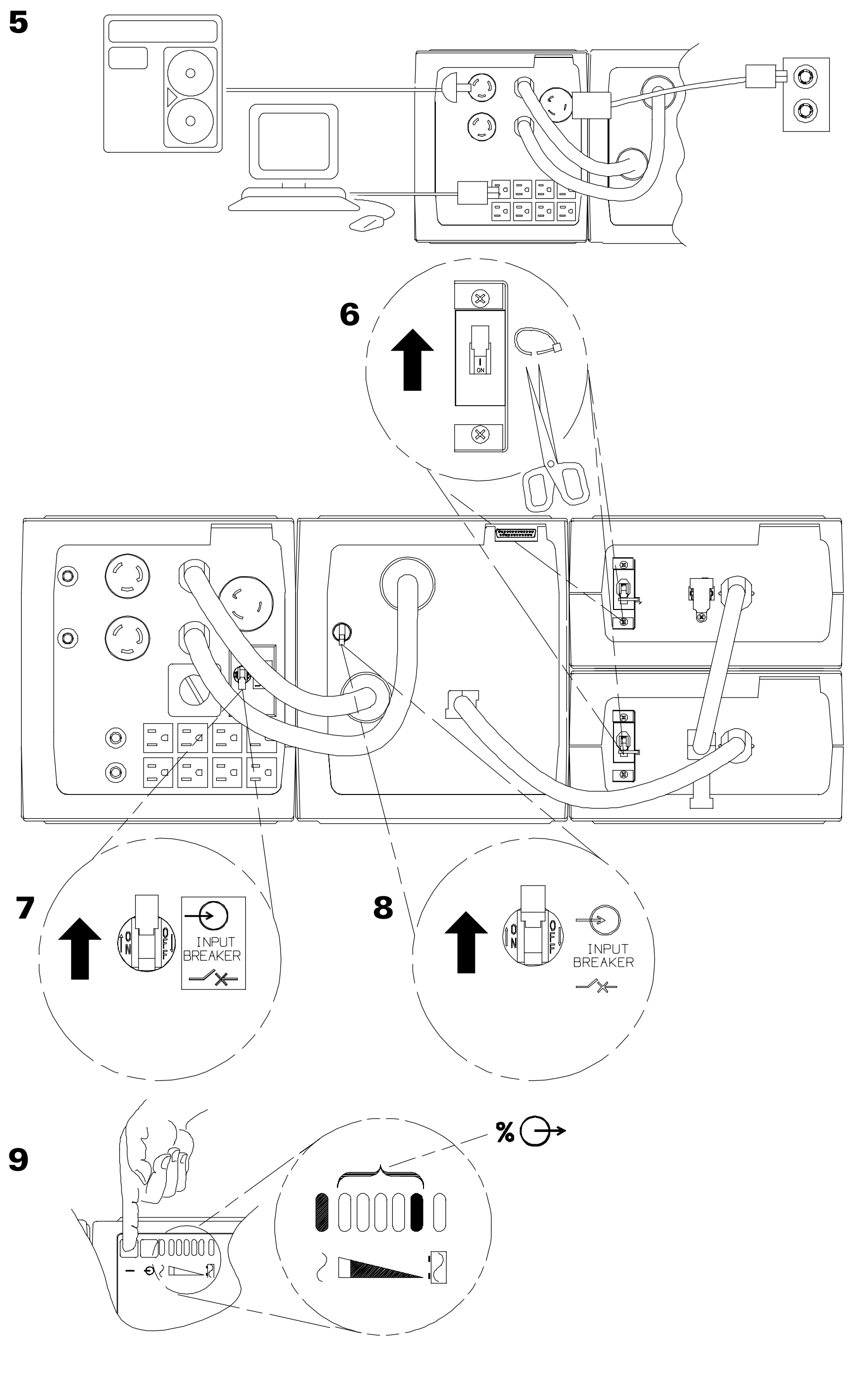

5
6
ON
7
ON
OFF
INPUT
BREAKER
8
ON
OFF
INPUT
BREAKER
9
%



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CHAPTER 1

INTRODUCTION

Congratulations on the purchase of your Powerware® 9 Prestige Series uninterruptible power system (UPS). The Prestige UPS meets the toughest measures of superior design and manufacturing, including ISO 9001. You now own the most reliable power protection available.

The Prestige 6000 provides a steady, well-regulated power supply for your computing and communications equipment, while protecting it from the frequent irregularities that are inherent in commercially available power. Voltage spikes, power surges, brownouts, and power failures have the potential to corrupt critical data, destroy unsaved work sessions, and in some instances, damage expensive hardware.

With the Prestige 6000, you can safely eliminate the effects of electrical line disturbances and guard the integrity of your systems and equipment. The optional PowerPass® Distribution Module (PPDM) has a Maintenance Bypass feature that supplies power to your equipment even when the power processing unit (PPU) is removed for maintenance or upgrades. Figure 1 shows the Prestige 6000 UPS with two battery cabinets and a PPU.

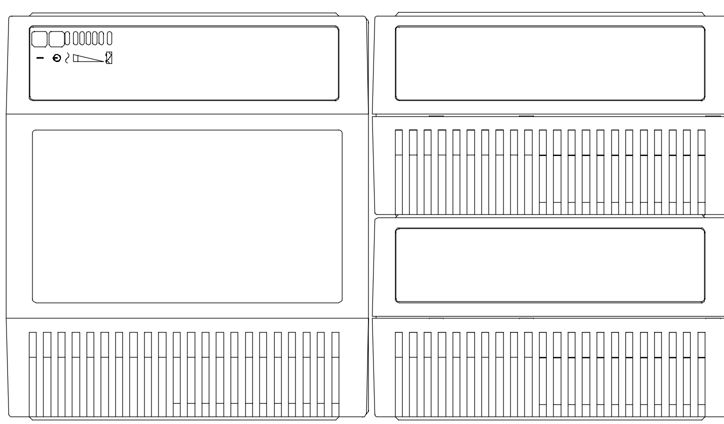


Figure 1. Prestige 6000 UPS

UPS Model and Battery Configurations

This UPS is designed to work with single-phase, three-wire, AC power sources. There are two important considerations when selecting the UPS model and battery configuration to properly safeguard your equipment:

- Load requirements
- Battery times

Load Requirements

The load is the equipment to be protected by the UPS. Select the UPS model that meets the power consumption requirements of the load in volt-amperes (VA). The total load VA should not exceed the UPS VA rating. To determine the total load requirements:

1. Obtain the load ratings from either the nameplate or operator's manual of the equipment to be protected by the UPS. The ratings are listed in either watts (W), amperes or amperes max (A), or volt-amperes.
2. If the rating is in watts, multiply by 1.4 to obtain the VA requirement (this is the typical relationship between watts and volt-ampere ratings in most computing equipment). However, in some new computing equipment, the power supply is power-factor corrected and the watts rating equals the VA requirement. Check with the manufacturer to determine applicability.

   If the rating is in amperes or amperes max, multiply by the input voltage to obtain the VA requirement.

3. Add all of the resultant VA ratings together to obtain the total load requirements of the equipment to be protected (see Figure 2). If the load consists of the power-factor corrected supplies, it is recommended to use total watts for the load requirements.

3 COMPUTERS 300 WATTS EACH	3 MONITORS 2 AMPS EACH	EXTERNAL MODEM 50 VA
3 x 300 WATTS X 1.4 = 1260 VA	3 x 2 AMPS x 240V = 1440 VA	50 VA

1260 VA + 1440 VA + 50 VA = 2750 VA (Total Load Requirements)

Figure 2. Volt-Amperes Calculation Example

If the total load requirements of the equipment exceeds the capacity of the UPS, you must either reduce the number of pieces of equipment, or use a UPS with a larger load capacity.

When deciding on which pieces of equipment to remove from the UPS, select equipment that has a lower priority for power protection. Computers, monitors, and modems typically have a higher priority because they could be processing or transmitting data when a power outage occurs.

Battery Times for the Prestige 6000

During a power failure, the UPS battery supplies power to your equipment, providing time to complete computing activities prior to UPS shutdown. The duration of this time period is directly related to the UPS battery configuration. By adding battery cabinets, you can customize the UPS to provide enough battery time for normal processing activities.

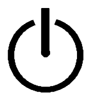
Load (VA) at 0.67 PF*	Load (W)	Average Battery Time (in Minutes)				
		2 Cabinets	3 Cabinets	4 Cabinets	5 Cabinets	6 Cabinets
6000	4000	5	9	14	21	25
4500	3000	7	14	22	27	32
3000	2000	14	24	32	39	47
1500	1000	30	44	58	72	87

*Typical Power Factor (PF)

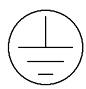
Special Symbols

The following common symbols may be found on the UPS:

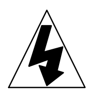
LOAD ON - Press the button with this symbol to energize the output receptacles (Output On).



LOAD OFF - Press the button with this symbol to de-energize the output receptacles (Output Off).



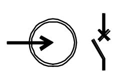
SAFETY EARTHING TERMINAL - Indicates the primary safety ground.



RISK OF ELECTRIC SHOCK - Indicates that a risk of electric shock is present and the associated warning should be observed.



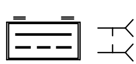
CAUTION: REFER TO OPERATOR'S MANUAL - Refer to your operator's manual for additional information.



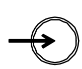
INPUT BREAKER - Indicates the input breaker, which shuts off utility power to the PPU.



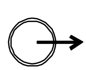
BATTERY BREAKER - Indicates the battery breaker, which shuts off battery power (power transmission through the battery cord).



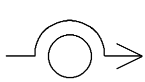
BATTERY CONNECTOR - Indicates the battery connector, which remains electrically "hot" even with the battery breaker off. Keep covered when not in use.



INPUT - Indicates the input to a unit.



OUTPUT - Indicates the output from a unit.



BYPASS - Indicates the Maintenance Bypass switch.



CHAPTER 2

Safety Warnings

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS. This manual contains important instructions that you should follow during installation of the UPS. Please read all instructions before operating the equipment and save this manual for future reference.

DANGER

This UPS contains **LETHAL VOLTAGES**. All repairs and service should be performed by **AUTHORIZED SERVICE PERSONNEL ONLY**. There are **NO USER SERVICEABLE PARTS** inside the UPS.

CAUTION

- Batteries can present a risk of electrical shock or burn from high short circuit current. Observe proper precautions.
- Proper disposal of batteries is required. Refer to your local codes for disposal requirements.
- This UPS contains its own energy source (batteries). The output receptacles may carry live voltage even when the UPS is not connected to an AC supply.
- Never dispose of batteries in a fire. Batteries may explode when exposed to flame.
- Never open or mutilate batteries. Released electrolyte is harmful to the skin and eyes, and may be extremely toxic.
- To reduce the risk of fire or electric shock, install this UPS in a temperature and humidity controlled, indoor environment, free of conductive contaminants. Ambient temperature must not exceed 104°F (40°C). Do not operate near water or excessive humidity (95% max).
- Do not remove or unplug the input cord when the UPS is turned on. This removes the safety ground from the UPS and the equipment connected to the UPS.
- The wall outlet must be within 2 meters of the equipment and accessible to the operator. The on/off switch on the UPS does not electrically isolate the internal parts. Unplug the input cord from the wall outlet when disconnecting the unit for long periods of time.

- Please note that the output sockets on the UPS are electrically live whenever the UPS Output | On button is pressed, even if the input cord is disconnected.
- To reduce the risk of fire, connect the UPS and PPDM only to circuits provided with 30 amperes maximum branch-circuit overcurrent protection.
- For PPDM systems with hardwired outputs, overcurrent protection for the output AC circuit(s) is to be provided by others.
- For PPDM systems with hardwired outputs, suitably rated disconnect switches for the output AC circuit(s) are to be provided by others.

Sikkerhedsanvisninger

VIGTIGE SIKKERHEDSANVISNINGER
GEM DISSE ANVISNINGER
DENNE BRUGERVEJLEDNING INDEHOLDER VIGTIGE SIKKERHEDSANVISNINGER

FARE

Denne UPS indeholder LIVSFARLIG HØJSPÆNDING. Alle reparationer og vedligeholdelse bør kun udføres af en AUTORISERET SERVICETEKNIKER. Ingen af UPS'ens indvendige dele kan repareres af brugeren.

ADVARSEL

- Batterier kan udgøre en fare for elektrisk stød eller forbrændinger forårsaget af høj kortslutningsspænding. De korrekte forholdsregler bør overholdes.
- Korrekt bortskaffelse af batterier er påkrævet. Overhold gældende lokale regler for bortskaffelsesprocedurer.
- Denne UPS indeholder egen energiforsyning (batterier). Udgangsnetstikkene kan lede strøm, selv når UPS'en ikke er tilsat en AC-energikilde.
- Skaf dig aldrig af med batterierne ved at brænde dem. Batterierne kan eksplodere ved åben ild.
- Batterierne bør aldrig åbnes eller skilles ad. Elektrolyt, der slipper ud, er skadelig for hud og øjne og kan være overordentlig giftig.
- Installér denne UPS i et temperatur- og fugtighedskontrolleret indendørsmiljø, frit for ledende forureningsstoffer for at formindske risikoen for brand og elektrisk stød. Rumtemperaturen må ikke overstige 40°C. UPS'en bør ikke betjenes nær vand eller høj fugtighed (maksimalt 95%).

- Netledningen må ikke fjernes og stikket må ikke trækkes ud, mens UPS'en er tændt. Dette fjerner sikkerhedsjorden fra UPS'en og fra det udstyr, der er sat til.
- Stikkontakten må højst være 2 meter fra udstyret og tilgængelig for brugeren. UPS'ens afbryderkontakt isolerer ikke elektrisk de indvendige dele. Træk derfor stikket ud af kontakten, hvis enheden er slukket i lang tid ad gangen.
- Bemærk venligst, at stikkontakterne på UPS'en er strømførende, når knappen UPS "Output | On" er trykket ned, selvom indgangsnedledningen ikke er tilsluttet.
- UPS'en og Bypass-modulet må kun tilsluttes strømkredse, som er forsynet med en overstrømsbeskyttelse på maksimalt 30 A pr. afgreningsstrømkreds for at formindske brandfaren.
- Med hensyn til Bypass-systemer med direkte forbundne udgange, skal overstrømsbeskyttelsen for AC-kredsen(e) komme andetsteds fra.
- Med hensyn til Bypass-systemer med direkte forbundne udgange, skal afbryderkontakter til AC-kredsløbet med passende mærkeeffekt komme andetsteds fra.

Belangrijke Veiligheidsinstructies

BELANGRIJKE VEILIGHEIDSINSTRUCTIES
BEWAAR DEZE INSTRUCTIES
DEZE HANDLEIDING BEVAT BELANGRIJKE VEILIGHEIDSINSTRUCTIES

GEVAAR

Deze UPS bevat LEVENSGEVAARLIJKE ELEKTRISCHE SPANNING. Alle reparaties en onderhoud dienen UITSLUITEND DOOR ERKEND SERVICEPERSONEEL te worden uitgevoerd. Er bevinden zich GEEN ONDERDELEN in de UPS die DOOR DE GEBRUIKER kunnen worden GEREPAREERD.

OPGELET

- Batterijen kunnen gevaar voor elektrische schok of brandwonden veroorzaken als gevolg van un hoge kortsluitstroom. Volg de desbetreffende aanwijzingen op.
- De batterijen moeten op de juiste wijze worden opgeruimd. Raadpleeg hiervoor uw plaatselijke voorschriften.
- Deze UPS bevat zijn eigen energiebron (batterijen). De uitgangsaansluitingen kunnen onder spanning staan wanneer de UPS niet op een wisselstroom voeding is aangesloten.

- Nooit batterijen in het vuur gooien. De batterijen kunnen ontploffen.
- Nooit batterijen openen of beschadigen. Vrijkomend elektrolyt is schadelijk voor de huid en ogen, en kan uiterst giftig zijn.
- Teneinde de kans op brand of elektrische schok te verminderen dient deze UPS in een gebouw met temperatuur- en vochtigheidregeling te worden geïnstalleerd, waar geen geleidende verontreinigingen aanwezig zijn. De omgevingstemperatuur mag 40°C niet overschrijden. Niet gebruiken in de buurt van water of bij zeer hoge vochtigheid (max. 95%).
- Verwijder de ingangsnoer niet of haal de stekker van de ingangsnoer er niet uit terwijl de UPS aan staat. Hierdoor zou de UPS en uw aangesloten apparatuur geen aardebeveiliging meer hebben.
- De hoofdvoedingcontactdoos moet zich op minder dan 2 meter van de apparatuur bevinden en makkelijk bereikbaar zijn voor de gebruiker. De aan/uit-schakelaar op de UPS biedt geen elektrische isolatie voor de inwendige onderdelen. De stekker uit de voedingcontactdoos halen wanneer het apparaat voor lange tijd niet wordt gebruikt.
- Neem er nota van dat de uitgangaansluit punten op de UPS altijd onder stroom staan wanneer de belastingschakelaar (|) wordt ingedrukt, ongeacht de aanwezigheid van de voeding.
- Teneinde de kans op brand te verminderen mogen de UPS en Bypass Module alleen op circuits worden aangesloten met een overstroombeveiliging van maximaal 30 ampère.
- Voor Bypass Module systemen met vast-bedrade uitgangen, moet de overstroombeveiliging voor wisselstroom uitgangcircuit(s) door derden worden geleverd.
- Voor Bypass Module systemen met vast-bedrade uitgangen, moeten de juiste hoofdschakelaars voor wisselstroom uitgangcircuit(s) door derden worden geleverd.

Tärkeitä turvaohjeita

TÄRKEITÄ TURVAOHJEITA - SUOMI
SÄILYTÄ NÄMÄ OHJEET
TÄMÄ OPAS SISÄLTÄÄ TÄRKEITÄ TURVAOHJEITA

VAARA

Tämä UPS sisältää HENGENVAARALLISIA JÄNNITTEITÄ. Kaikki korjaukset ja huollot on jätettävä VAIN VALTUUTETUN HUOLTOHENKILÖN TOIMEKSI. UPS ei sisällä MITÄÄN KÄYTTÄJÄN HUOLLETTAVIA OSIA.

VARO

- Akusto saattaa aiheuttaa sähköiskun tai syttyä tuleen, jos akusto kytketään oikosulkuun. Noudata asianmukaisia ohjeita.
- Akusto täytyy hävittää säädösten mukaisella tavalla. Noudata paikallisia määräyksiä.
- Tämä UPS sisältää oman energialähteen (akuston). Ulostuloliittimissä voi olla jännite, kun UPS ei ole liitettynä verkkojännitteeseen.
- Älä koskaan heitä akkuja tuleen. Ne voivat räjähtää.
- Älä avaa tai riko akkuja. Paljastunut elektrolyytti on vahingollinen iholle ja silmille ja voi olla erittäin myrkyllistä.
- Vähentääksesi tulipalon ja sähköiskun vaaraa asenna tämä UPS sisätiloihin, joissa lämpötila ja kosteus on säädettävissä ja joissa ei ole virtaa johtavia epäpuhtauksia. Ympäristön lämpötila ei saa ylittää 40 °C. Älä käytä lähellä vettä ja vältä kosteita tiloja (95 % maksimi).
- Älä poista tai irrota sisääntulojohtoa, kun UPS on kytkettynä. Tämä poistaa turvamaadoituksen UPS-laitteesta ja siihen liitetystä laitteistosta.
- Päävirtapistokkeen täytyy olla 2 m:n säteellä laitteistosta ja käyttäjän saatavilla. UPS-laitteen virtakytkin ei erota sisäosia verkkojännitteestä. Irrota sisääntulopistoke, jos kytket laitteen pois käytöstä pitkähköksi ajaksi.
- Ota myös huomioon, että UPS-laitteen ulostuloliittimissä on jännite aina kun painetaan UPSin lähtöteho PÄÄLLÄ -painiketta (|), riippumatta siitä, onko tulokaapeli kytkettynä tai ei.
- Palovaaran vähentämiseksi UPS ja ohituslaite tulee kytkeä virtapiiriin, jonka haaroitusjohtojen ylivirtasuojauksen maksimiarvo on 30 A.

- Tämän laitteen mukana ei toimiteta lähdön ylivirtasuojausta kiinteän asennuksen ohitusjärjestelmissä.
- Tämän laitteen mukana ei toimiteta lähdön johdonsuojakatkaisijoita jakeluja varten kiinteän asennuksen ohitusjärjestelmissä.

Consignes de sécurité

CONSIGNES DE SÉCURITÉ IMPORTANTES
CONSERVER CES INSTRUCTIONS
CE MANUEL CONTIENT DES CONSIGNES DE SÉCURITÉ IMPORTANTES

DANGER!

Cet onduleur contient des TENSIONS MORTELLES. Toute opération d'entretien et de réparation doit être EXCLUSIVEMENT CONFIÉE A UN PERSONNEL QUALIFIÉ AGRÉÉ. AUCUNE PIÈCE RÉPARABLE PAR L'UTILISATEUR ne se trouve dans l'onduleur.

ATTENTION!

- Les batteries peuvent présenter un risque de décharge électrique ou de brûlure par des courts-circuits de haute intensité. Prendre les précautions nécessaires.
- Une mise au rebut réglementaire des batteries est obligatoire. Consulter les règlements en vigueur dans votre localité.
- Cet onduleur renferme sa propre source d'énergie (batteries). Les prises de sortie peuvent être sous tension même lorsque l'onduleur n'est pas branché sur le secteur.
- Ne jamais jeter les batteries au feu. L'exposition aux flammes risque de les faire exploser.
- Ne jamais ouvrir ou mutiler des batteries. L'électrolyte dégagée est nuisible à la peau et aux yeux et peut s'avérer extrêmement toxique.
- Pour réduire les risques d'incendie et de décharge électrique, installer l'onduleur uniquement à l'intérieur, dans un lieu dépourvu de matériaux conducteurs, où la température et l'humidité ambiantes sont contrôlées. La température ambiante ne doit pas dépasser 40 °C. Ne pas utiliser à proximité d'eau ou dans une atmosphère excessivement humide (95 % maximum).
- Ne pas retirer le cordon d'alimentation lorsque l'onduleur est sous tension sous peine de supprimer la mise à la terre de l'onduleur et du matériel connecté.

- La prise secteur doit se trouver à moins de 2 m du matériel et être accessible à l'utilisateur. L'interrupteur de ON/OFF (marche/arrêt) de l'onduleur n'assure pas l'isolation électrique des pièces internes. Débrancher le cordon d'alimentation de la prise secteur en cas de déconnexion de l'appareil pendant une période prolongée.
- Noter que les prises de sortie de l'onduleur sont sous tension lorsque Output | On button est enfoncé, même si le cordon d'alimentation est débranché de la prise secteur.
- Afin de réduire les risques d'incendie, ne brancher l'onduleur et le bypass que sur des circuits dérivés équipés d'un dispositif de protection contre les surintensités de 30 A maximum.
- Pour les systèmes de bypass dotés de sortie à bornier, la protection contre les surintensités des circuits de sortie de courant alternatif est à se procurer auprès d'un autre fournisseur.
- Pour les systèmes de bypass dotés de sortie à bornier, les interrupteurs adaptés au circuit de courant alternatif sont à se procurer auprès d'un autre fournisseur.

Sicherheitswarnungen

WICHTIGE SICHERHEITSANWEISUNGEN AUFBEWAHREN. DIESES HANDBUCH ENTHÄLT WICHTIGE SICHERHEITSANWEISUNGEN.

WARNUNG

Die USV führt lebensgefährliche Spannungen. Alle Reparatur- und Wartungsarbeiten sollten nur von Kundendienstfachleuten durchgeführt werden. Die USV enthält keine vom Benutzer zu wartenden Komponente

VORSICHT!

- Batterien können aufgrund des hohen Kurzschlußstroms Elektroschocks oder Verbrennungen verursachen. Die entsprechenden Vorsichtsmaßnahmen sind unbedingt zu beachten.
- Die Batterien müssen ordnungsgemäß entsorgt werden. Hierbei sind die örtlichen Bestimmungen zu beachten.en.
- Diese USV ist mit einer eigenen Energiequelle (Batterie) ausgestattet. An den Ausgangssteckdosen kann auch dann Spannung anliegen, wenn die USV nicht an einer Wechselspannungsquelle angeschlossen ist.
- Batterien niemals verbrennen, da sie explodieren können.

- Batterien nie öffnen oder anderweitig beschädigen. Der darin enthaltene Elektrolyt wirkt ätzend auf Haut und Augen. Es besteht Vergiftungsgefahr!
- Um die Brand- oder Elektroschockgefahr zu verringern, diese USV nur in Gebäuden mit kontrollierter Temperatur und Luftfeuchtigkeit installieren, in denen keine leitenden Schmutzstoffen vorhanden sind. Die Umgebungstemperatur darf 40°C nicht übersteigen. Die USV nicht in der Nähe von Wasser oder in extrem hoher Luftfeuchtigkeit (max. 95 %) betreiben.
- Das Eingangskabel nicht entfernen oder abziehen, während die USV eingeschaltet ist, weil hierdurch die Sicherheitserdung von der USV und den daran angeschlossenen Geräten entfernt wird.
- Die Netzsteckdose, die zur Hauptversorgung verwendet wird, darf sich nicht weiter als 2 Meter vom Gerät weg befinden und muß für den Bediener erreichbar sein. Der Ein-/Aus-Schalter der USV bietet keine elektrische Isolation der internen Teile. Wenn das Gerät längere Zeit nicht benutzt wird, sollte es von der Netzsteckdose abgezogen werden.
- Beachten, daß die Ausgangssteckdosen auf der USV jedesmal Strom führen, wenn der Belastungsschalter (|) gedrückt wird, ungeachtet dessen, ob die USV mit Strom versorgt wird.
- Um die Brandgefahr zu verringern, die USV und Bypass Module nur an Stromkreise mit einem Zweigleitungsüberstromschutz von maximal 30 Ampere anschließen.
- Für Bypass-Systeme mit festverdrahteten Eingängen muß der Überstromschutz für die Ausgangswechselstromkreise anderweitig bereitgestellt werden.
- Für Bypass-Systeme mit festverdrahteten Ausgängen müssen Trennschalter für die Ausgangswechselstromkreise mit passendem Nennwert anderweitig bereitgestellt werden.

Προειδοποιήσεις Ασφάλειας

ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ
ΦΥΛΑΞΤΕ ΑΥΤΕΣ ΤΙΣ ΟΔΗΓΙΕΣ
ΤΟ ΠΑΡΟΝ ΕΓΧΕΙΡΙΔΙΟ ΠΕΡΙΕΧΕΙ ΣΗΜΑΝΤΙΚΕΣ ΟΔΗΓΙΕΣ ΑΣΦΑΛΕΙΑΣ

ΚΙΝΔΥΝΟΣ

Αυτό το UPS περιέχει ΘΑΝΑΤΗΦΟΡΑ ΤΑΣΗ. Όλες οι επισκευές και οι συντηρήσεις πρέπει να γίνονται ΜΟΝΟ ΑΠΟ ΕΞΟΥΣΙΟΔΟΤΗΜΕΝΟ ΓΙΑ ΤΗ ΣΥΝΤΗΡΗΣΗ ΠΡΟΣΩΠΙΚΟ. Το UPS ΔΕΝ ΠΕΡΙΕΧΕΙ ΚΑΝΕΝΑ ΕΞΑΡΤΗΜΑ ΠΟΥ ΝΑ ΜΠΟΡΕΙ ΝΑ ΕΠΙΣΚΕΥΑΣΤΕΙ ΑΠΟ ΤΟ ΧΡΗΣΤΗ.

ΠΡΟΣΟΧΗ

- Οι συσσωρευτές μπορεί να προκαλέσουν ηλεκτροπληξία ή έγκαυμα από υψηλό ρεύμα βραχυκυκλώματος. Λαμβάνετε τις κατάλληλες προφυλάξεις.
- Απαιτείται σωστή διάθεση των συσσωρευτών. Δείτε τους τοπικούς κανονισμούς που αφορούν τις απαιτήσεις διάθεσής τους.
- Το συγκεκριμένο UPS περιέχει τη δική του πηγή ενέργειας (συσσωρευτές). Οι ρευματοδότες εξόδου μπορεί να έχουν ενεργό τάση ακόμη και όταν το UPS δεν είναι συνδεδεμένο σε πηγή εναλλασσόμενου ρεύματος (AC).
- Ποτέ μην πετάτε τους συσσωρευτές στη φωτιά, γιατί μπορεί να εκραγούν.
- Ποτέ μην ανοίγετε ή καταστρέφετε τους συσσωρευτές. Ο ηλεκτρολύτης που θα απελευθερωθεί μπορεί να προκαλέσει βλάβη στο δέρμα και τα μάτια, και μπορεί να είναι εξαιρετικά τοξικός.
- Για να μειώσετε τον κίνδυνο πυρκαγιάς ή ηλεκτροπληξίας, εγκαταστήστε το συγκεκριμένο UPS σε εσωτερικό χώρο με ελεγχόμενη θερμοκρασία και υγρασία, ο οποίος να μην περιέχει αγώγιμα υλικά. Η θερμοκρασία περιβάλλοντος δεν πρέπει να ξεπερνάει τους 40° C. Μη χρησιμοποιείτε το UPS κοντά σε νερό ή υπερβολική υγρασία (μέγιστη τιμή: 95%).
- Μην βγάζετε από την πρίζα το καλώδιο τροφοδοσίας όταν το UPS είναι ανοιχτό. Μ αυτό τον τρόπο αφαιρείτε τη γείωση ασφαλείας από το UPS και από τον εξοπλισμό που είναι συνδεδεμένος με το UPS.

- Η πρίζα τοίχου δεν πρέπει να βρίσκεται σε απόσταση μεγαλύτερη από 2 μέτρα από τον εξοπλισμό και πρέπει να είναι προσπελάσιμη στο χρήστη. Ο διακόπτης on/off του UPS δεν απομονώνει ηλεκτρικά τα εσωτερικά μέρη. Όταν αποσυνδέετε τη μονάδα για μεγάλα χρονικά διαστήματα, βγάζετε το καλώδιο εισόδου από την πρίζα.
- Σημειώστε ότι οι υποδοχές εξόδου του UPS βρίσκονται υπό ενεργό τάση όποτε είναι πατημένο το πλήκτρο 'Εξοδος Ενεργοποιημένη (|), ακόμη και αν το καλώδιο τροφοδοσίας είναι αποσυνδεδεμένο.
- Για να μειώσετε τον κίνδυνο πυρκαγιάς, συνδέστε το UPS και την BDM/BIM μόνο με κυκλώματα που είναι ασφαλισμένα από την υπερένταση κλάδου κυκλώματος με 30 A (μέγιστη τιμή).
- Για συστήματα Παράκαμψης με καλωδιωμένες εξόδους, η προστασία από την υπερένταση για το κύκλωμα (τα κυκλώματα) εξόδου AC πρέπει να παρέχεται από τρίτους.
- Στα συστήματα Παράκαμψης με καλωδιωμένες εξόδους, οι διακόπτες αποσύνδεσης που είναι κατάλληλοι για το κύκλωμα (κυκλώματα) εξόδου AC πρέπει να παρέχονται από τρίτους.

Avvisi di sicurezza

IMPORTANTI ISTRUZIONI DI SICUREZZA
CONSERVARE QUESTE ISTRUZIONI
QUESTO MANUALE CONTIENE IMPORTANTI ISTRUZIONI DI SICUREZZA

PERICOLO

la TENSIONE contenuta in questo gruppo statico di continuità è LETALE. Tutte le operazioni di riparazione e di manutenzione devono essere effettuate ESCLUSIVAMENTE DA PERSONALE TECNICO AUTORIZZATO. All'interno del gruppo statico di continuità NON vi sono PARTI RIPARABILI DALL'UTENTE.

ATTENZIONE

- le batterie possono presentare rischio di scossa elettrica o di ustioni provocate da alta corrente dovuta a corto circuito. Osservare le apposite istruzioni.
- le batterie devono essere smaltite in modo corretto. Per i requisiti di smaltimento fare riferimento alle disposizioni locali.

- questo gruppo statico di continuità contiene una fonte di energia autonoma (le batterie). Le prese di uscita possono condurre tensione energizzata quando il gruppo statico di continuità non è collegato con una fonte di alimentazione a corrente alternata.
- non gettare mai le batterie nel fuoco poichè potrebbero esplodere se esposte alle fiamme.
- mai aprire nè mutilare le batterie poichè l'elettrolita da esse rilasciato è nocivo alla cute e agli occhi e può essere altamente tossico.
- per ridurre il rischio di incendio o di scossa elettrica, installare il gruppo statico di continuità in un ambiente interno a temperatura ed umidità controllata, privo di agenti contaminanti conduttivi. La temperatura ambiente non deve superare i 40°C. Non utilizzare l'unità in prossimità di acqua o in presenza di umidità eccessiva (95% max).
- non rimuovere nè scollegare il cavo di ingresso quando il gruppo statico di continuità è acceso poichè in tal modo si disattiverebbe il collegamento a terra di sicurezza del gruppo statico di continuità e dell'apparecchiatura ad esso collegata.
- la presa di alimentazione principale non deve trovarsi a oltre 2 metri dall'apparecchiatura e deve essere accessibile all'operatore. L'interruttore on/off del gruppo statico di continuità non isola elettricamente i componenti interni. Scollegare l'unità dalla presa di alimentazione quando rimane in riposo per lunghi periodi di tempo.
- si noti che le prese di alimentazione di uscita del gruppo statico di continuità sono elettricamente energizzate ogniqualvolta viene premuto l'interruttore azzurro di (|) attivazione uscita, a prescindere dal fatto che il gruppo statico di continuità sia alimentato o meno.
- per ridurre il rischio di incendio, collegare il gruppo statico di continuità e il sistema Bypass Module esclusivamente con circuiti provvisti di protezione da sovracorrente massima di 30 ampere per circuito derivato.
- nei sistemi Bypass provvisti di uscite cablate, i dispositivi di protezione da sovracorrente per il/i circuito/i a corrente alternata in uscita devono essere forniti da terzi.
- nei sistemi Bypass provvisti di uscite cablate, i sezionatori di corrente nominale adeguata per il/i circuito/i a corrente alternata in uscita devono essere forniti da terzi.

Viktig Sikkerhetsinformasion

FARLIG

Denne UPS'en inneholder LIVSFARLIGE SPENNINGER. All reparasjon og service må kun utføres av AUTORISERT SERVICEPERSONALE. BRUKERE KAN IKKE UTFØRE SERVICE PÅ NOEN AV DELENE i UPS'en.

FORSIKTIG

- Batterier kan forårsake elektriske støt eller forbrenning på grunn av høy kortslutningsstrøm. Følg instruksene.
- Batterier må fjernes på korrekt måte. Se lokale forskrifter vedrørende krav om fjerning av batterier.
- Denne UPS'en har en egen energikilde (batterier). Stikkontaktene kan være strømførende selv om UPS'en ikke er tilsluttet en vekselstrømforsyning.
- Kast aldri batterier i flammer, da de kan eksplodere, hvis de utsettes for åpen ild.
- Batterier må aldri åpnes eller ødelegges. Frigjorte elektrolytter er skadelige for hud og øyne og kan være ekstremt giftige.
- For å redusere fare for brann eller elektriske støt, bør denne UPS'en installeres i et innendørs miljø med kontrollert temperatur og luftfuktighet som er fritt for ledende, forurensende stoffer. Romtemperaturen må ikke overskride 40°C. Den må ikke brukes i nærheten av vann eller ved meget høy luftfuktighet (95% maks.).
- Strømforsyningskabelen må ikke fjernes eller trekkes ut når UPS'en er på, slik at ikke sikkerhetsjordingen fjernes fra UPS'en og det utstyret som er forbundet med den.
- Stikkontakten må befinne seg innen 2 m fra utstyret og må være tilgjengelig for operatøren. Av/På-bryteren på UPS'en isolerer ikke de interne delene. Trekk ut ledningen fra stikkontakten når utstyret frakoples over lengre tidsrom.
- UPS'ens stikkontakter for utgangsstrømforsyning er strømførende når lastbryteren (|) trykkes, uavhengig av strømforsyningen.
- For å redusere fare for brann, må UPS'en og PPDM bare tilsluttes strømkretser med uttak som har overstømvern på maksimalt 30 ampere.
- For PPDM systemer med fastkoplete uttak, må overstrømvern for vekselstrømuttak(ene) stilles til rådighet av andre.
- For PPDM systemer med fastkoplete uttak, må passende utkoplingsbrytere for vekselstrømuttak(ene) stilles til rådighet av andre.

Regulamentos de Segurança

INSTRUÇÕES DE SEGURANÇA IMPORTANTES
GUARDE ESTAS INSTRUÇÕES
ESTE MANUAL CONTÉM INSTRUÇÕES DE SEGURANÇA IMPORTANTES

CUIDADO

A UPS contém VOLTAGEM MORTAL. Todos os reparos e assistência técnica devem ser executados SOMENTE POR PESSOAL DA ASSISTÊNCIA TÉCNICA AUTORIZADO. Não há nenhuma PEÇA QUE POSSA SER REPARADA PELO USUÁRIO dentro da UPS.

PERIGO

- As baterias podem apresentar o risco de choque elétrico, ou queimaduras provenientes de alta corrente de curto-circuito. Observe as instruções adequadas.
- Siga as instruções apropriadas ao desfazer-se das baterias. Consulte os códigos do local para maiores informações sobre os regulamentos de descarte de produtos.
- Esta UPS contém sua própria fonte de energia (baterias). Os receptáculos de saída podem conter voltagem ativa quando a UPS não se encontra conectada a uma fonte de alimentação de corrente alternada.
- Nunca jogue as baterias no fogo, porque há risco de explosão.
- Nunca abra ou danifique as baterias. O eletrólito liberado é prejudicial à pele e aos olhos e pode ser extremamente tóxico.
- Para reduzir o risco de incêndios ou choques elétricos, instale a UPS em ambiente interno com temperatura e umidade controladas e livres de contaminadores condutíveis. A temperatura ambiente não deve exceder 40°C. Não opere próximo a água ou em umidade excessiva (máx: 95%).
- Não remova ou desconecte o cabo de entrada quando a UPS estiver ligada. Isto removerá o aterramento de segurança da UPS e do equipamento conectado.
- O soquete de alimentação principal deve estar no máximo dois metros do equipamento e acessível ao operador. O interruptor on/off da UPS não isola eletricamente as peças internas. Desconecte-o do soquete de alimentação se não for usá-lo por um longo período.
- Favor observar que o soquete de alimentação de saída na UPS estará eletricamente ativo todas as vezes que o interruptor (|) estiver pressionado, indiferente à presença de energia elétrica na rede de alimentação.
- Para reduzir o risco de incêndios, conecte a UPS somente a um circuito com proteção de sobrecarga de derivação de no máximo 30 ampères.

- Para sistemas Bypass com saídas conectadas, a proteção de sobrecarga para circuitos de saída de corrente alternada deve ser fornecida por outros.
- Para sistemas Bypass com saídas conectadas, interruptores de desconexão devidamente qualificados para circuitos de saída de corrente alternada devem ser fornecidos por outros.

Предупреждения по мерам безопасности

ВАЖНЫЕ УКАЗАНИЯ ПО МЕРАМ БЕЗОПАСНОСТИ
СОХРАНИТЕ ЭТИ УКАЗАНИЯ
ДАННОЕ РУКОВОДСТВО СОДЕРЖИТ ВАЖНЫЕ УКАЗАНИЯ ПО МЕРАМ БЕЗОПАСНОСТИ

ОПАСНО

В данном ИБП имеются СМЕРТЕЛЬНО ОПАСНЫЕ НАПРЯЖЕНИЯ. Все работы по ремонту и обслуживанию должны выполняться ТОЛЬКО УПОЛНОМОЧЕННЫМ ОБСЛУЖИВАЮЩИМ ПЕРСОНАЛОМ. Внутри ИБП нет узлов, ОБСЛУЖИВАЕМЫХ ПОЛЬЗОВАТЕЛЕМ.

ОСТОРОЖНО

- Аккумуляторы могут вызвать опасность поражения электрическим током или ожога от тока короткого замыкания. Соблюдайте соответствующие меры предосторожности.
- Необходимо соблюдать правила утилизации аккумуляторов. Обратитесь к местным нормативным актам за информацией о требованиях к утилизации.
- Данный ИБП содержит собственные источники энергии (аккумуляторы). На выходных розетках может иметься напряжение, даже когда ИБП не подключен к сети переменного тока.
- Никогда не бросайте аккумуляторы в огонь. Аккумуляторы могут взорваться под воздействием огня.
- Никогда не открывайте и не деформируйте аккумуляторы. Вытекающий электролит опасен для кожи и глаз, и может быть крайне токсичным.

- Для снижения опасности пожара или поражения электрическим током устанавливайте ИБП в закрытом помещении с контролируемыми температурой и влажностью, в котором отсутствуют проводящие загрязняющие вещества. Температура окружающего воздуха не должна превышать 40°C. Не эксплуатируйте устройство около воды или в местах с повышенной влажностью (макс. 95%).
- Не отсоединяйте сетевой шнур и не извлекайте его вилку из розетки при включенном ИБП. При этом защитное заземление отключается от ИБП и от оборудования, подключенного к ИПБ.
- Настенная розетка должна находиться в пределах 2 метров от оборудования и быть доступной для оператора. Выключатель ИБП не отключает внутренние узлы от входного электропитания. При отключении оборудования на продолжительные интервалы времени отсоедините входной сетевой шнур от настенной розетки.
- Пожалуйста, обратите внимание на то, что выходные розетки ИБП находятся под электрическим напряжением, если была нажата кнопка включения выхода (|) ИБП, даже если входной сетевой шнур отключен.
- Для снижения опасности пожара подключайте ИБП и блок байпаса только к цепям, оснащенным защитой от перегрузки по току, рассчитанной на максимальный ток ветви 30 ампер.
- Для блока байпаса с неразъемными выходами защита от перегрузки по току выходной(ых) цепи(ей) переменного тока должна обеспечиваться сторонними организациями.
- Для блока байпаса с неразъемными выходами сторонними организациями должны быть обеспечены выключатели выходной(ых) цепи(ей) переменного тока, рассчитанные на соответствующий номинал.

Advertencias de Seguridad

INSTRUCCIONES DE SEGURIDAD IMPORTANTES
GUARDE ESTAS INSTRUCCIONES
ESTE MANUAL CONTIENE INSTRUCCIONES DE SEGURIDAD IMPORTANTES

P E L I G R O

Este SIE contiene VOLTAJES MORTALES. Todas las reparaciones y el servicio técnico deben ser efectuados SOLAMENTE POR PERSONAL DE SERVICIO TÉCNICO AUTORIZADO. No hay NINGUNA PARTE QUE EL USUARIO PUEDA REPARAR dentro del SIE.

P R E C A U C I Ó N

- Las baterías pueden presentar un riesgo de descargas eléctricas o de quemaduras debido a la alta corriente de cortocircuito. Preste atención a las instrucciones correspondientes.
- Es necesario desechar las baterías de un modo adecuado. Consulte las normas locales para conocer los requisitos pertinentes.
- Este SIE contiene su propia fuente de energía (las baterías). Los receptáculos de salida pueden transmitir corriente eléctrica aun cuando el SIE no esté conectado a un suministro de corriente alterna (c.a.).
- Nunca deseche las baterías en el fuego. Las baterías pueden explotar si se las expone a la llama.
- Nunca abra ni dañe las baterías. El electrolito que se libera es perjudicial para la piel y los ojos, y puede ser extremadamente tóxico.
- Para reducir el riesgo de incendio o de choque eléctrico, instale este SIE en un lugar cubierto, con temperatura y humedad controladas, libre de contaminantes conductores. La temperatura ambiente no debe exceder los 40°C. No trabaje cerca del agua o con humedad excesiva (95% máximo).
- No retire o desenchufe el cable de entrada mientras el SIE se encuentre encendido. Esto suprime la descarga a tierra de seguridad del SIE y de los equipos conectados al SIE.3
- El tomacorriente debe encontrarse a menos de 2 metros del equipo y ser accesible para el operador. El interruptor de encendido/apagado del SIE no tiene aislación eléctrica de las partes internas. Desenchufe el cable de entrada del tomacorriente de la pared cuando desconecte la unidad durante períodos largos.

- Tenga en cuenta que los receptáculos de salida del SIE tienen corriente eléctrica siempre que se oprime el botón pulsador de conexión de salida del SIE (Output ON), aun cuando el cable de entrada esté desconectado.
- Para reducir el riesgo de incendio, conecte el SIE y el bypass solamente a circuitos con protección por sobreintensidad de las ramas de un máximo de 30 A.
- Para los sistemas de bypass con salidas cableadas, la protección por sobreintensidad para el (los) circuito(s) de la salida de c.a. se deberá adquirir a un tercero.
- Para los sistemas de bypass con salidas cableadas, los interruptores de desconexión regulados adecuadamente para el (los) circuito(s) de la salida de c.a. deberán ser adquiridos a un tercero.

Säkerhetsföreskrifter

VIKTIGA SÄKERHETSFÖRESKRIFTER
SPARA DESSA FÖRESKRIFTER
DENNA BRUKSANVISNING INNEHÅLLER VIKTIGA SÄKERHETSFÖRESKRIFTER

FARA

Denna UPS-enhet innehåller LIVSFARLIG SPÄNNING. ENDAST AUKTORISERAD SERVICEPERSONAL får utföra reparationer eller service. Det finns inga delar som ANVÄNDAREN KAN UTFÖRA SERVICE PÅ inuti UPS-enheten.

VIKTIGT

- Batterierna kan ge elektriska stötar eller brännskador från hög kortslutningsström. Följ tillämpliga anvisningar.
- Batterierna måste avyttras enligt anvisningarna i lokal lagstiftning.
- Denna UPS-enhet har en egen energikälla (batterier). De utgående kontakterna kan vara strömförande när UPS-enheten inte är ansluten till en växelströmkälla.
- Använda batterier får aldrig brännas upp. De kan explodera.
- Öppna aldrig batterierna eller ta isär dem. Utsläppt elektrolyt är skadlig för hud och ögon och kan vara mycket giftig.
- Minska risken för brand eller elektriska stötar genom att installera denna UPS-enhet inomhus, där temperatur och luftfuktighet är kontrollerade och där inga ledande föroreningar förekommer. Omgivande temperatur får ej överstiga 40°C. Använd inte utrustningen nära vatten eller vid hög luftfuktighet (max 95 %).

- Ta aldrig bort nätsladden när UPS-enheten är påslagen. Detta tar bort säkerhetsjordningen från både UPS-enheten och den anslutna utrustningen.
- Vägguttaget får vara högst 2 meter från utrustningen och måste vara inom räckhåll för användaren. UPS-enhetens strömbrytare isolerar inte elektriskt de interna delarna. Vid längre avstängning bör nätsladden dras ur vägguttaget.
- Observera att UPS-enhetens uttag är strömförande när laddningsström-brytaren (Output | On button) trycks ned, oberoende av om spänningskällan är tillkopplad eller inte.
- Minska brandrisken genom att ansluta UPS-enheten och förbikopplings-modulen till kretsar som försetts med överströmsskydd i form av en avgreningskoppling på max 30 ampere.
- Överströmsskydd för de utgående växelströmkretsarna ska tillhandahållas av andra för fast anslutna förbikopplingssystem.
- Strömbrytare för bortkoppling med passande dimensioner för de utgående växelströmkretsarna ska tillhandahållas av andra för fast anslutna förbikopplingssystem.



CHAPTER 3

Installation

The following sections describe UPS storage requirements and the installation and startup of the UPS.

Unpacking and Inspection

Carefully unpack the UPS and any other cabinets, making sure to retain the packaging materials. Examine each unit carefully for any signs of damage and immediately notify your distributor if damage is present.

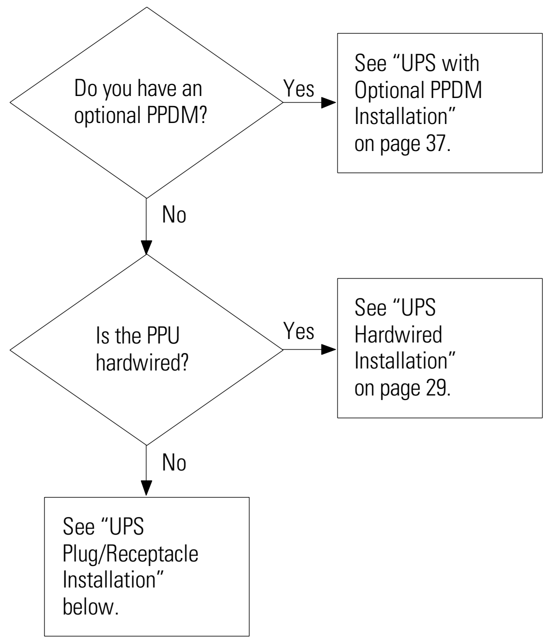
UPS and Battery Cabinet Storage

If you plan to store the UPS or battery cabinets prior to use, store them in a cool, dry environment. Storage temperature should not exceed 35°C (95°F) in order to preserve battery life. For longer term storage, energize the power processing unit and battery cabinet for approximately 8 hours every 90 days in order to maintain battery charge.

Whenever the units are not energized, verify the circuit breaker on all battery cabinets is returned to the OFF (O) position (see Figure 4 on page 26).

Selecting an Installation Option

You are now ready to install the Prestige 6000. Use the following flow chart to decide which installation option is right for you.



UPS and Battery Cabinet Installation

This section describes the installation and startup for a plug/receptacle UPS and a hardwired UPS.

UPS Plug/Receptacle Installation

Use the following procedure to install the PPU and battery cabinets:

1. Place the UPS near the equipment to be protected. The UPS should be well ventilated and away from direct sunlight or other heat source.

   Place the PPU underneath or beside the battery cabinets as shown in Figure 3.

NOTE Do not connect more than six standard battery cabinets to the PPU. For extended battery run times, contact your local distributor for additional battery cabinets. Do not place more than six cabinets in one stack (the PPU is equal to two cabinets).

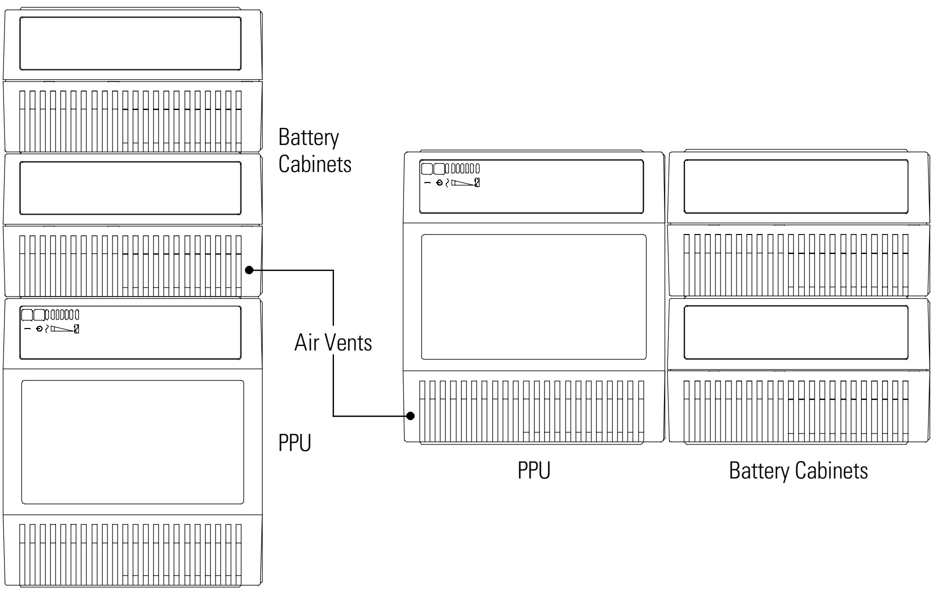


Figure 3. Cabinet Setup

NOTE You can install additional battery cabinets while the UPS is operating, but confirm the UPS is not in Battery mode (see page 51).

2. Verify the input breaker on the PPU rear panel is in the OFF (O) position (see Figure 4).
3. Verify the circuit breaker on all battery cabinets is in the OFF (O) position.
4. Plug the battery cord into the battery connector on the PPU rear panel. All battery connectors are polarized to prevent incorrect connection.

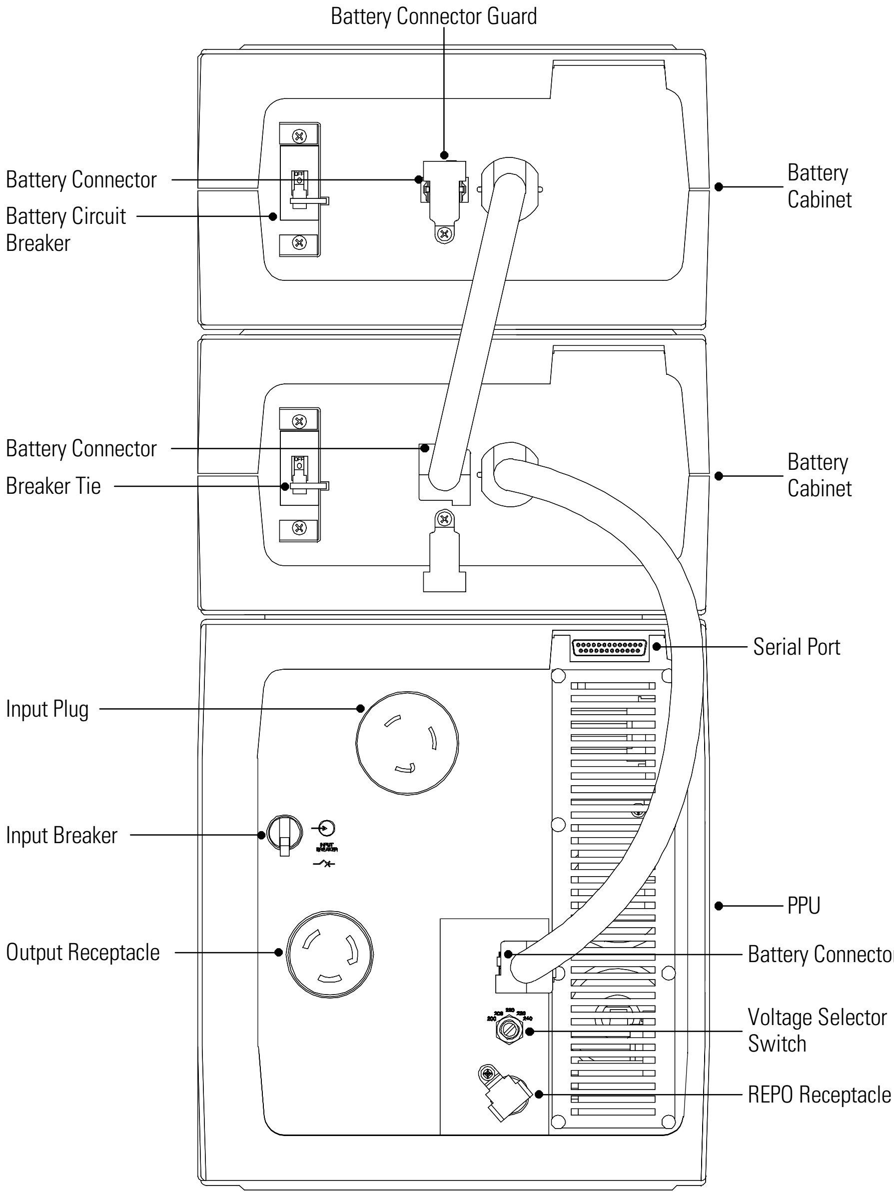


Figure 4. UPS with Plug/Receptacle PPU Rear Panel

5. If additional battery cabinets are to be used, plug the battery cord of the second cabinet into the battery connector of the first cabinet after pivoting the battery connector guard out of the way. Follow this procedure for each additional battery cabinet.
6. Remove the breaker tie from the circuit breaker on all battery cabinets.
7. Select the correct UPS output voltage. Using a screwdriver, turn the switch to the corresponding position of the output voltage required (see Figure 5). The output voltage is factory-set to 220V.

CAUTION

Do not turn the Voltage Selector switch while the UPS is operating (see "Changing the Output Voltage" on page 53). Changing the output voltage while the UPS is operating may cause an emergency power-off.

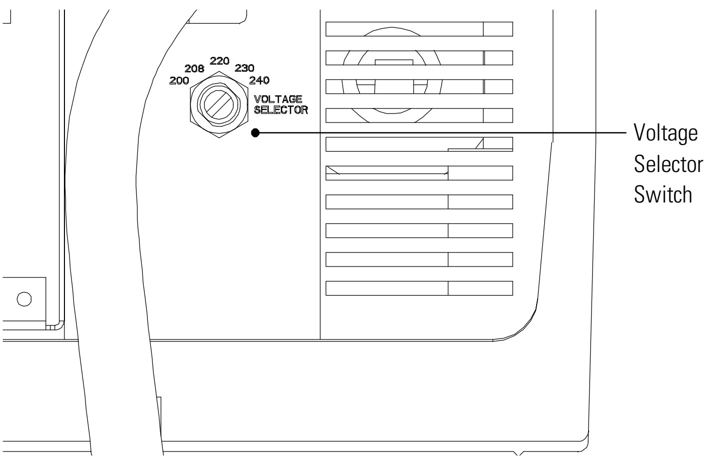


Figure 5. Voltage Selector Switch

8. The equipment to be protected by the UPS should be powered off. Plug the equipment into the power output receptacle on the PPU rear panel.

   DO NOT protect laser printers with the UPS because of the exceptionally high power requirements of the heating elements.

9. If you are using a Remote Emergency Power-Off (REPO) switch, follow the instructions in the following section, “REPO Installation.”
10. Start the UPS according to the “UPS Startup” procedure on page 36.

REPO Installation

WARNING

Only qualified service personnel (such as a licensed electrician) should perform the hardwired installation.

The REPO switch is a customer-supplied switch that can disconnect UPS output voltage from your protected equipment. If you are using a REPO switch, you need a junction box, external wiring, and a switch with the following specifications:

- The switch should be a wall-mounted, momentary-contact, normally open, pushbutton switch.
- Minimum ratings of 240 Vac and 35 mA.
- Wire should be 18 AWG (0.75 mm^2) minimum.

CAUTION

- The black and white REPO wires are at high-voltage potential (240V). Refer to your local electrical code for proper installation of the high-voltage REPO wires.
- To ensure the UPS stops supplying power to the load during any mode of operation, the input power must be disconnected from the UPS when the emergency power-off function is activated.

1. Place the conduit through the access hole on the junction box (see Figure 6). Connect the exposed conduit wires to the corresponding compression terminals (see the following table). Tighten the compression terminals with a screwdriver.
2. Pivot the REPO receptacle guard out of the way, plug the REPO plug/receptacle PPU connector into the REPO receptacle on the PPU rear panel and twist the connector in place (see Figure 4 on page 26).

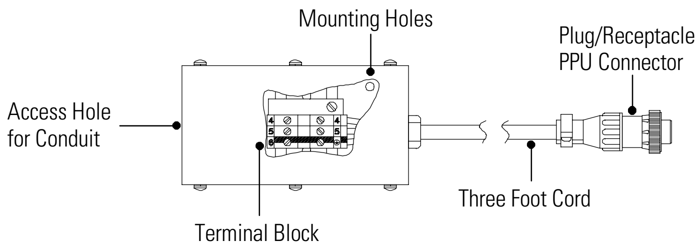


Figure 6. Optional REPO Cord Junction Box

Optional REPO Cord Junction Box Connections				
Wire Function		Terminal Position	Terminal Wire Size Rating	Suggested Wire Size
REPO	L1	TB1-4	12 - 22 AWG (4 - 0 mm^2)	18 AWG (0.75 mm^2)
	L2	TB1-5		
	Ground	TB1-6		

NOTE The REPO function activates when L1 and L2 are shorted together.

UPS Hardwired Installation

WARNING

Only qualified service personnel (such as a licensed electrician) should perform the hardwired installation.

Use the following procedure to install the PPU and battery cabinets:

1. Place the UPS near the equipment to be protected. The UPS should be well ventilated and away from direct sunlight or other heat source.

   Place the PPU underneath or beside the battery cabinets as shown in Figure 7.

NOTE Do not connect more than six standard battery cabinets to the PPU. For extended battery run times, contact your local distributor for additional battery cabinets. Do not place more than six cabinets in one stack (the PPU is equal to two cabinets).

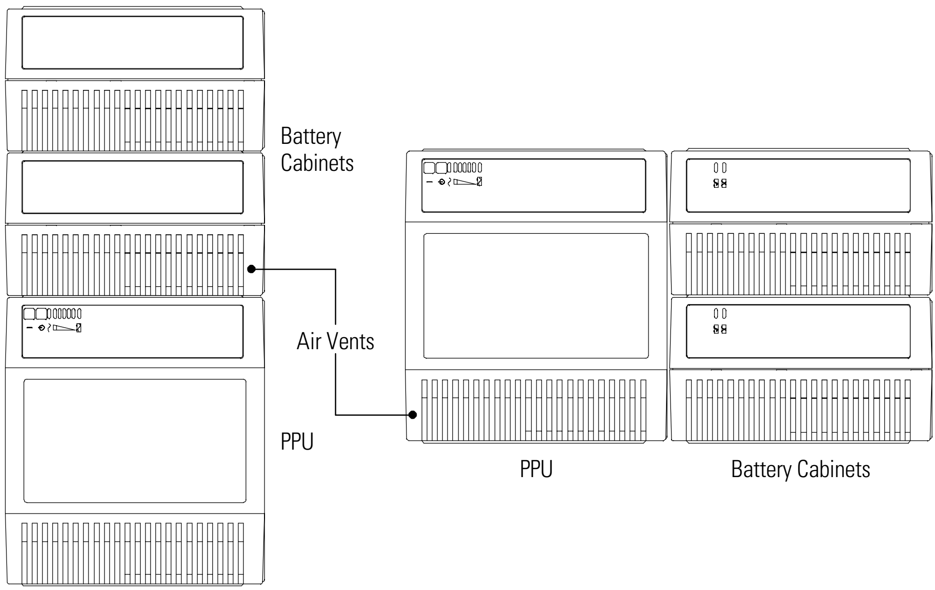


Figure 7. Cabinet Setup

NOTE You can install additional battery cabinets while the UPS is operating, but confirm the UPS is not in Battery mode (see page 51).

2. Verify the input breaker on the PPU rear panel is in the OFF (O) position (see Figure 8).
3. Verify the circuit breaker on all battery cabinets is in the OFF (O) position.

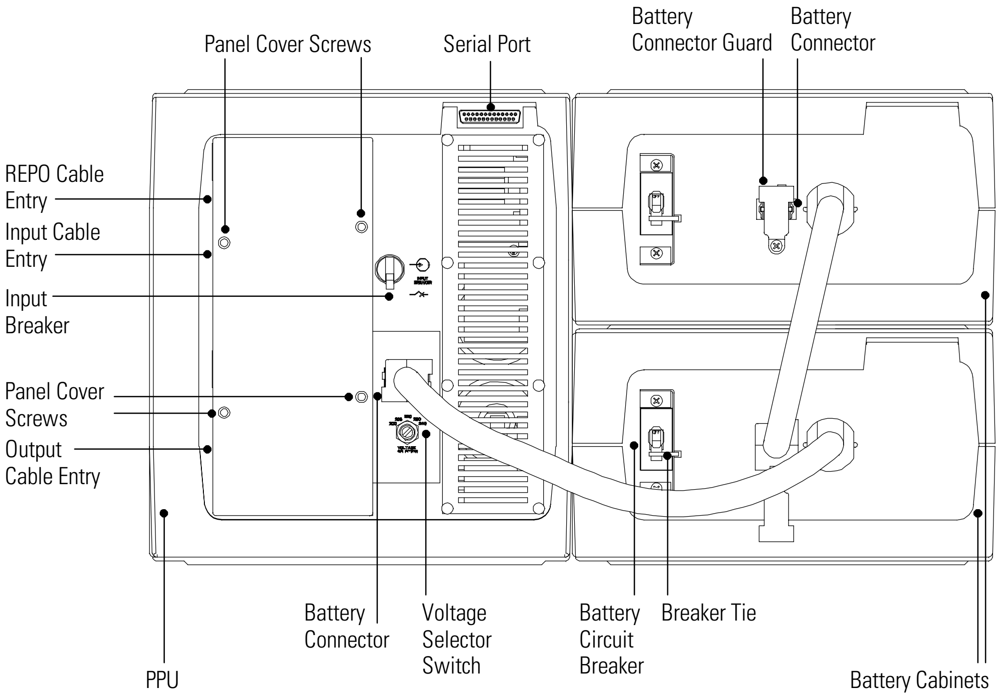


Figure 8. UPS with Hardwired PPU Rear Panel

4. Select the correct UPS output voltage. Using a screwdriver, turn the switch to the corresponding position of the output voltage required (see Figure 9). The output voltage is factory-set to 220V.

CAUTION

Do not turn the Voltage Selector switch while the UPS is operating (see "Changing the Output Voltage" on page 53). Changing the output voltage while the UPS is operating may cause an emergency power-off.

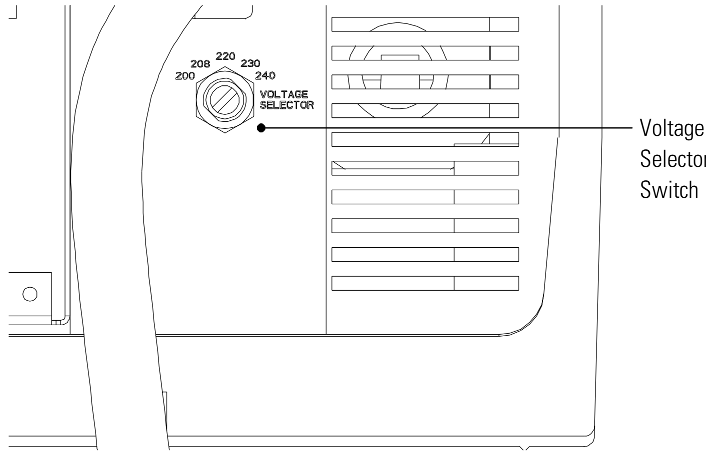


Figure 9. Voltage Selector Switch

5. Remove the four screws on the PPU rear panel with a Phillips screwdriver and remove the PPU back panel cover.

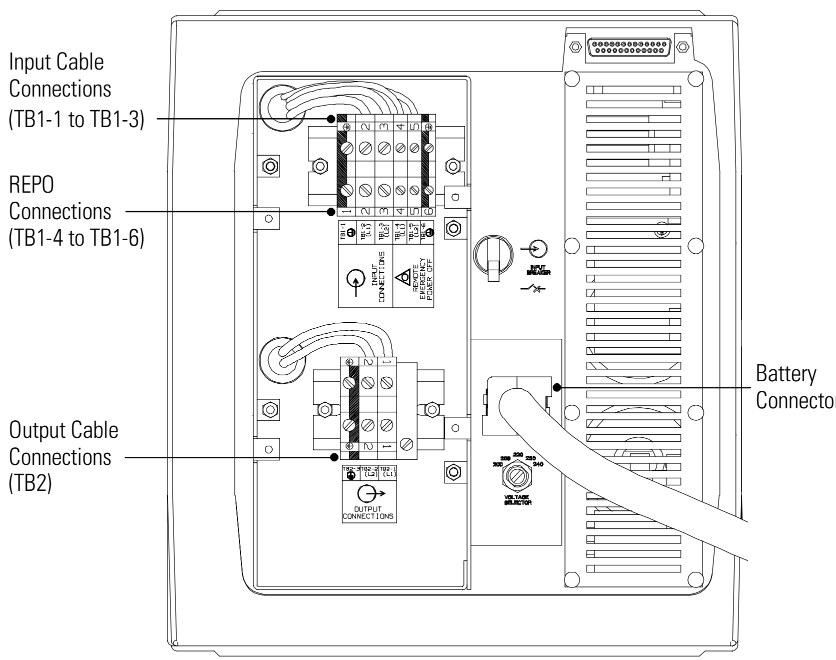


Figure 10. Hardwired PPU with Rear Panel Cover Removed

6. Hardwire the input (TB1-1 through TB1-3) and output terminations (TB2) for the PPU. See the following hardwired terminations table for specifications. See Figure 11 for a detailed view of the terminal blocks.

PPU Hardwired Terminations					
Wire Function		Terminal Position	Terminal Wire Size Rating	Suggested Wire Size*	Conduit Connection (Entry Size)
Input	Ground	TB1-1	10 - 18 AWG ($6 - 0\ mm^2$)	10 AWG ($6\ mm^2$)	1 1/8″ (28.58 mm) access hole for 3/4″ (19.05 mm) conduit
	L1	TB1-2	8 - 18 AWG ($10 - 0\ mm^2$)		
	L2/Neutral	TB1-3			
Output	L1	TB2-1	8 - 18 AWG ($10 - 0\ mm^2$)	10 AWG ($6\ mm^2$)	1 1/8″ (28.58 mm) access hole for 3/4″ (19.05 mm) conduit
	L2/Neutral	TB2-2			
	Ground	TB2-3	10 - 18 AWG ($6 - 0\ mm^2$)		
REPO	L1	TB1-4	12 - 22 AWG ($4 - 0\ mm^2$)	18 AWG ($0.75\ mm^2$)	7/8″ (22.23 mm) knock-out for 1/2″ (12.70 mm) conduit
	L2	TB1-5			
	Ground	TB1-6			

*****Use 75°C copper wire. Suggested wire size is based on Model 6000 full load ratings applied to NEC Code Table 310-16.

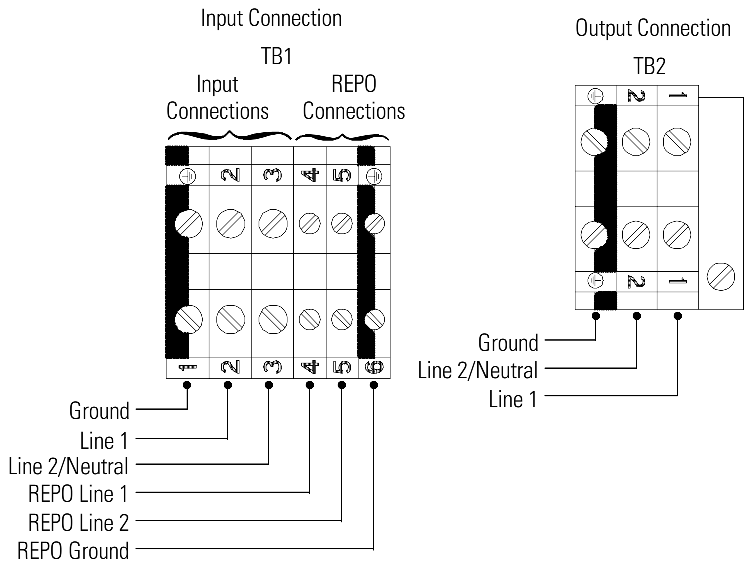


Figure 11. Hardwired PPU Terminal Blocks

7. Determine your equipment's grounding requirements according to your local electrical code.
8. As part of the branch circuit that supplies this unit, install an insulated grounding conductor. Use the following specifications for the grounding conductor that connects to input ground terminal TB1-1.
   - **Material and insulation thickness:** must be identical to the grounded and ungrounded branch-circuit supply conductors
   - **Color:** consult local code requirements for ground wire color code (usually green with or without a yellow stripe)
   - **Ground:** should be grounded to the earth ground in the service equipment or in the supply transformer (if supplied by a separately-derived system)

NOTE All attachment plug-receptacles on, or connected to, the UPS or system equipment must be a grounding type. The grounding conductors serving these receptacles must be connected to the earth ground in the service equipment.

9. If you are using a REPO switch, hardwire the terminal block TB1, positions TB1-4 through TB1-6. See the hardwired termination table on page 33 for proper connections. Figure 10 on page 32 shows the connection locations and Figure 11 on page 34 shows a detailed view of the terminal blocks.

   The REPO switch is a customer-supplied switch that can disconnect the UPS output voltage from your protected equipment. The REPO function activates when the L1 and L2 wires are shorted together. Use the following specifications for the REPO switch:

   - The switch should be a wall-mounted, momentary-contact, normally open, pushbutton switch.
   - Minimum ratings of 240 Vac and 35 mA.

CAUTION

- The Line1 and Line2 wires are at high-voltage potential (240V). Refer to your local electrical code for proper installation of the high-voltage REPO wires.
- To ensure the UPS stops supplying power to the load during any mode of operation, the input power must be disconnected from the UPS when the emergency power-off function is activated.

10. Replace the PPU rear panel cover.
11. Plug the battery cord into the battery connector on the PPU rear panel. All battery connectors are polarized to prevent incorrect connection.
12. If additional battery cabinets are to be used, plug the battery cord of the second cabinet into the battery connector of the first cabinet after pivoting the battery connector guard out of the way. Follow this procedure for each additional battery cabinet.
13. Remove the breaker tie from the circuit breaker on all battery cabinets.
14. Confirm the equipment to be protected by the UPS is powered off.
15. Start the UPS according to the following “UPS Startup” procedure.

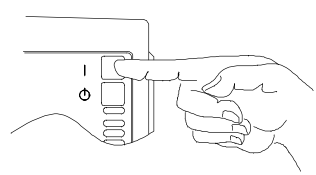
UPS Startup

To start up the UPS:

1. Verify the input breaker on the PPU rear panel is in the OFF (O) position (see Figure 4 on page 26).
2. Confirm the correct UPS output voltage is selected (see Step 7 on page 27).
3. Turn on the equipment that is connected to the UPS.
4. If your PPU is a hardwired unit, supply utility power to the UPS and skip to Step 7.
5. If your PPU is a plug/receptacle unit, plug the UPS power supply cord into the power input connector on the PPU rear panel.
6. Plug the other end of the power supply cord into a grounded, three-wire, AC receptacle that has been wired in accordance with NEC specifications or national wiring rules. See Chapter 6, "Specifications" on page 69 for the input current/output voltage requirements.
7. Switch the circuit breaker to the ON (|) position (see Figure 4 on page 26) on each battery cabinet connected to the PPU.

   Each battery cabinet performs a self-test and then enters normal operation. The battery cabinet startup should take about three seconds.
8. Switch the PPU input breaker to the ON (|) position (see Figure 4 on page 26).

   The UPS performs diagnostic tests and enters Normal mode with the equipment (load) offline. The ∼ indicator remains lit. The startup should take about 15 seconds.
9. Press and hold the Output | On button until you hear the UPS beep (approximately one second).



The ~ indicator remains lit and the Self Test indicator turns on. The front panel displays the percentage of full load being applied to the UPS. The UPS is now in Normal mode with the load online. See “Normal Mode” on page 50 for more information.

10. If you connected a REPO switch to the UPS, test the switch while the UPS is operating to ensure proper operation.

    Press the REPO switch. The UPS shuts down and stops providing power to the equipment. To restart the UPS, follow the startup procedure beginning on page 36.

NOTE If the REPO test fails and the UPS does not shutdown, contact your service representative.

UPS with Optional PPDM Installation

The PowerPass Distribution Module has a Maintenance Bypass feature that supplies power to your equipment even when the PPU is removed for maintenance or upgrades. Users requiring 100V, 110V, 115V, 120V, or 127V output or galvanic isolation also need to use the PPDM.

Use the following procedure to install the PPU and battery cabinets with the PPDM:

1. Place the UPS near the equipment to be protected. The UPS should be well ventilated and away from direct sunlight or other heat source.

   Stack the PPU, battery cabinets, and PPDM as shown in Figure 12.

   If more than two batteries are to be used, place the batteries next to the other batteries. (See the FCC Statement in the back of this manual for more information on radio-frequency emissions.)

NOTE Do not connect more than six standard battery cabinets to the PPU. For extended battery run times, contact your local distributor for additional battery cabinets. Do not place more than six cabinets in one stack (the PPU is equal to two cabinets and the PPDM is equal to two cabinets).

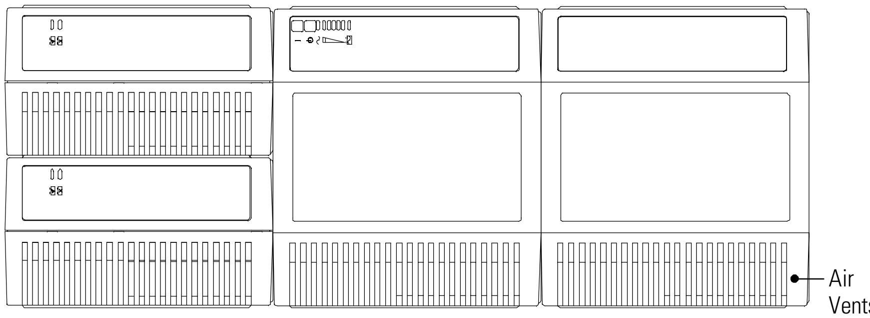


Figure 12. UPS with PPDM

NOTE You can install additional battery cabinets while the UPS is operating, but confirm the UPS is not in Battery mode (see page 51).

2. Verify the Bypass switch on the PPDM rear panel is in the NORMAL position (see Figure 13).
3. Verify the circuit breaker on all battery cabinets is in the OFF (O) position (see Figure 14).

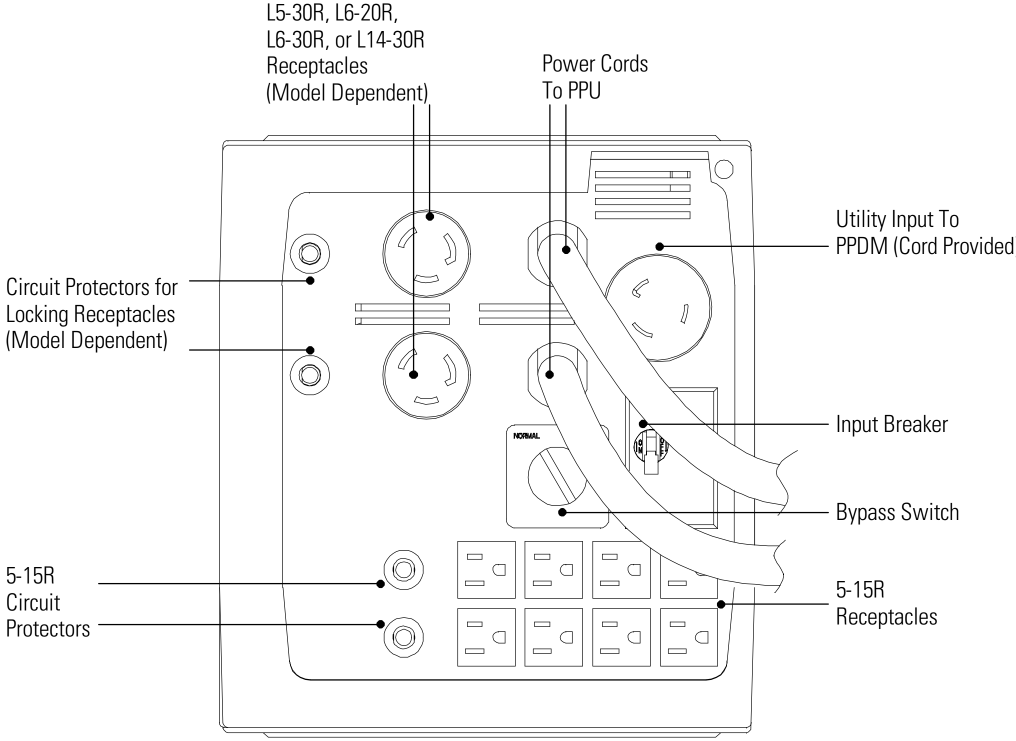


Figure 13. PPDM Plug/Receptacle Unit Rear Panel Connections

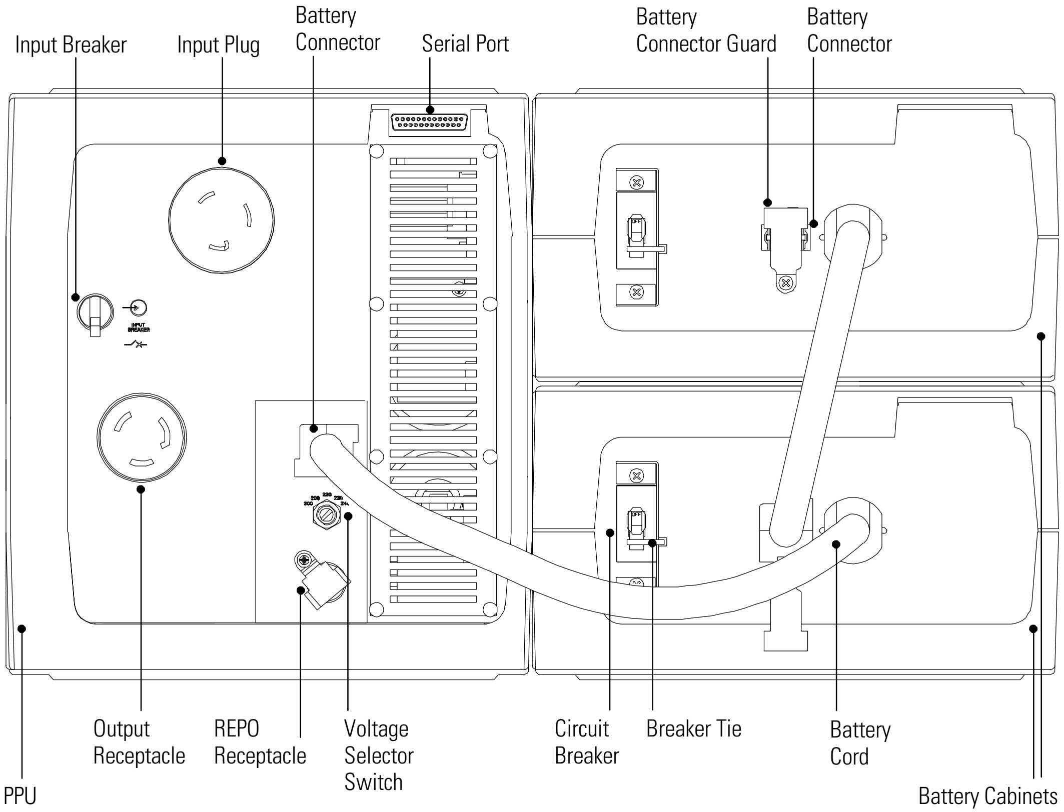


Figure 14. UPS with Plug/Receptacle PPU Rear Panel

4. Select the correct UPS output voltage according to the PPDM model:

PPDM Model Number	UPS Voltage Selector Switch Position*
208: 120/208 Hardwired	Set to 208V for 120/208V PPDM output Set to 220V for 127/220V PPDM output (60-Hz units only)
208: 120 L5-30R	208
208: 120/208 L6-20R	208
208: 120/208 L6-30R	208
208: 120/240 L14-30R	208
240: 120/240 Hardwired	Set to 200V for 100/200V PPDM output Set to 220V for 110/220V PPDM output Set to 230V for 115/230V PPDM output Set to 240V for 120/240V PPDM output
240: 120/240 L5-30R	
240: 120/240 L6-20R	
240: 120/240 L6-30R	
240: 120/240 L14-30R	
240: 120/240E Hardwired	

*****The UPS output voltage should match local voltages.

Using a screwdriver, turn the switch to the corresponding position of the output voltage required (see Figure 15). The output voltage is factory-set to 220V.

CAUTION

Do not turn the Voltage Selector switch while the UPS is operating (see "Changing the Output Voltage" on page 53). Changing the output voltage while the UPS is operating may cause an emergency power-off.

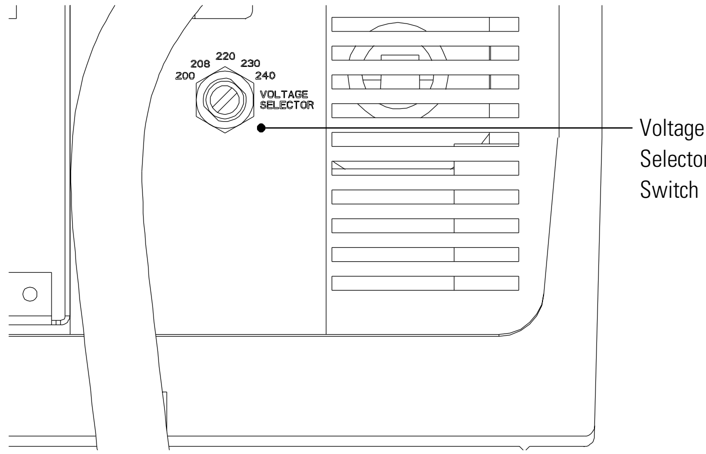


Figure 15. Voltage Selector Switch

5. Plug the input and output power cords of the PPDM into the input and output power connectors on the PPU rear panel (see Figure 13 and Figure 14). Figure 24 on page 55 shows the PPDM and PPU rear panel connections.
6. For a plug/receptacle PPDM, continue to Step 7. For a hardwired PPDM, skip to Step 8.
7. The equipment to be protected by the UPS should be powered off. Plug the equipment into the power output receptacles on the PPDM rear panel. Skip to Step 13 on page 46 to connect the battery cabinet(s).

   DO NOT protect laser printers with the UPS because of the exceptionally high power requirements of the heating elements.

8. Remove the screws on the PPDM rear panel with a Phillips screwdriver and remove the PPDM back panel cover.

WARNING

Only qualified service personnel (such as a licensed electrician) should perform the hardwired installation.

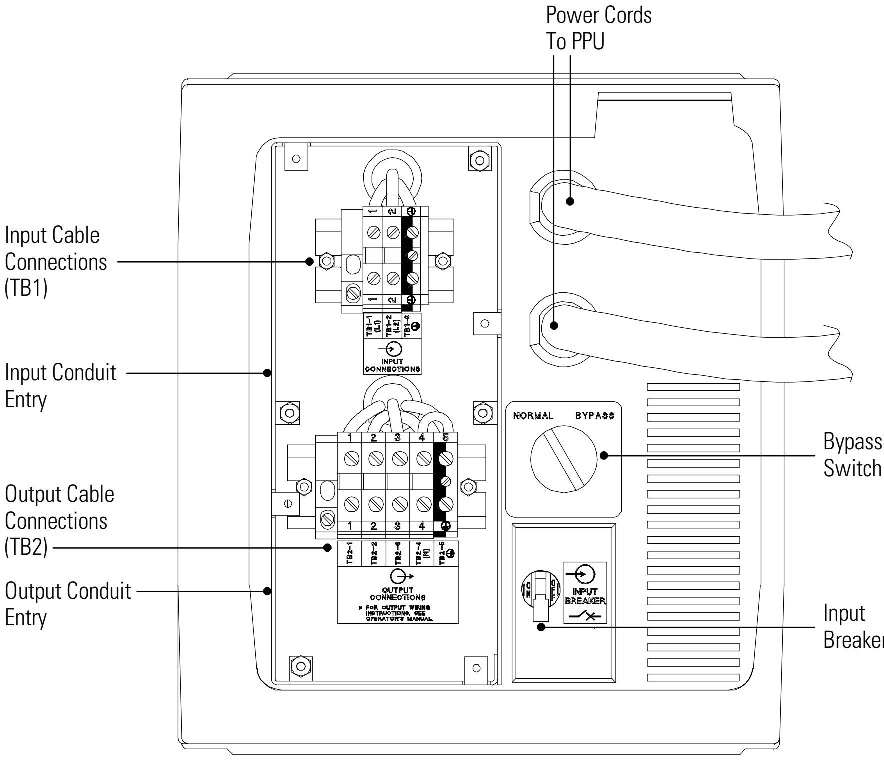


Figure 16. Hardwired PPDM with Rear Panel Cover Removed

9. Hardwire the input (TB1) and output terminations (TB2) for the PPDM. See the following hardwired terminations table for specifications. See Figure 17 for a detailed view of the terminal blocks.

PPDM Hardwired Terminations					
Wire Function		Terminal Position	Terminal Wire Size Rating	Suggested Wire Size*	Conduit Connection (Entry Size)
Input	L1	TB1-1	8 - 18 AWG (10 - 0 mm^2)	10 AWG (6 mm^2)	1 1/8″ (28.58 mm) access hole for 3/4″ (19.05 mm) conduit
	L2/Neutral	TB1-2			
	Ground	TB1-3	10 - 18 AWG (6 - 0 mm^2)		
Output	Model and Voltage Dependent (see the following Output Wiring Table)	TB2-3	6 - 18 AWG (16 - 0 mm^2)	8 AWG (10 mm^2)	1 3/8″ (34.93 mm) access hole for 1″ (25.4 mm) conduit
		TB2-2			
		TB2-1			
	Neutral	TB2-4			
	Ground	TB2-5			

*Use 75°C copper wire. Suggested wire size is based on Model 240: 120/240 hardwire full load ratings applied to NEC Code Table 310-16.

PPDM Hardwired Models Output Wiring					
Model 208:120/208		Model 240:120/240		Model 240:120/240E	
Output Voltage	Terminal Position	Output Voltage	Terminal Position	Output Voltage	Terminal Position
120V (50/60 Hz)	TB2-2 and TB2-4 and/or TB2-3 and TB2-4	100V, 110V, 115V, or 120V	TB2-2 and TB2-4 and/or TB2-3 and TB2-4	100V, 110V, 115V, or 120V	TB2-3 and TB2-4
127V (60 Hz only)					
208V (50/60 Hz)	TB2-1 and TB2-3	200V, 220V, 230V, or 240V	TB2-2 and TB2-3	200V, 220V, 230V, or 240V	TB2-1 and TB2-4
220V (60 Hz only)					

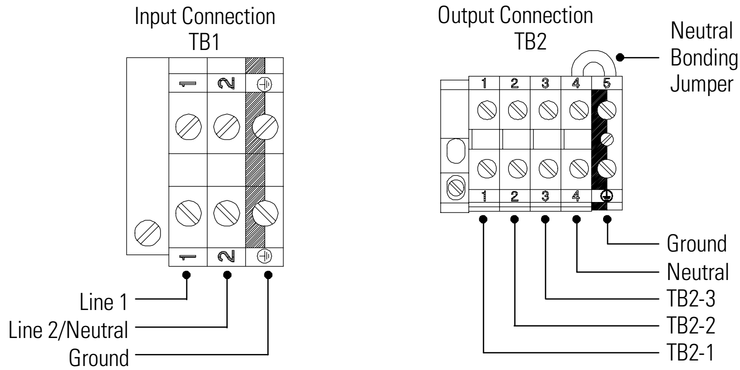


Figure 17. Hardwired PPDM Terminal Blocks

NOTE ***Model 240: 120/240E only.*** The neutral bonding jumper on TB2 of the PPDM grounds an output phase and may need to be removed. Refer to your local electrical code requirements.

10. Determine your equipment's grounding requirements according to your local electrical code.

CAUTION

For PPDM systems with hardwired outputs, overcurrent protection and suitably rated disconnect switches for the output AC circuit(s) are to be provided by either the protected equipment or the customer's distribution panel.

11. As part of the branch circuit that supplies this unit, install an insulated grounding conductor. Use the following specifications for the grounding conductor that connects to input ground terminal TB1-3.
    - **Material and insulation thickness:** must be identical to the grounded and ungrounded branch-circuit supply conductors
    - **Color:** consult local code requirements for ground wire color code (usually green with or without a yellow stripe)
    - **Ground:** should be grounded to the earth ground in the service equipment or in the supply transformer (if supplied by a separately-derived system)

NOTE All attachment plug-receptacles on, or connected to, the UPS or system equipment must be a grounding type. The grounding conductors serving these receptacles must be connected to the earth ground in the service equipment.

12. Replace the PPDM rear panel cover.
13. Plug the battery cord into the battery connector on the PPU. All battery connectors are polarized to prevent incorrect connection.
14. If additional battery cabinets are to be used, plug the battery cord of the second cabinet into the battery connector of the first cabinet after pivoting the battery connector guard out of the way. Follow this procedure for each additional battery cabinet.
15. Remove the breaker tie from the circuit breaker on all battery cabinets.
16. The equipment to be protected by the UPS should be powered off.
17. If you are using a REPO switch, follow the “REPO Installation” instructions on page 28.
18. Start the UPS according to the following “UPS with PPDM Startup” procedure.

UPS with PPDM Startup

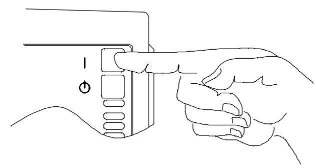
To start up the UPS:

1. Verify the PPDM input breaker is in the OFF (O) position (see Figure 13 on page 39).
2. Confirm the correct UPS output voltage is selected (see Step 4 on page 41).
3. Turn on the equipment that is connected to the UPS.
4. Confirm the Bypass switch on the PPDM rear panel is in the NORMAL position (see Figure 13 on page 39).
5. If your PPDM is a hardwired unit, supply utility power to the UPS and skip to Step 8.
6. If your PPDM is a plug/receptacle unit, plug the input power supply cord into the utility input receptacle on the PPDM rear panel.
7. Plug the other end of the power supply cord into a grounded, three-wire, AC receptacle that has been wired in accordance with NEC specifications or national wiring rules. See Chapter 6, “Specifications” on page 69 for the input current/output voltage requirements.
8. Switch the circuit breaker to the ON (|) position (see Figure 14 on page 40) on each battery cabinet connected to the PPU.

   Each battery cabinet performs a self-test and then enters normal operation. The battery cabinet startup should take about three seconds.
9. For plug/receptacle units, verify that the circuit protectors for output receptacles are in the ON position (pushed in).
10. Switch the PPU input breaker to the ON (|) position (see Figure 14 on page 40).
11. Switch the PPDM input breaker to the ON (|) position (see Figure 13 on page 39).

    The UPS performs diagnostic tests and enters Normal mode with the equipment (load) offline. The ∼ indicator remains lit. The startup should take about 15 seconds.

12. Press and hold the Output | On button until you hear the UPS beep (approximately one second).



The ~ indicator remains lit and the Self Test indicator turns on. The front panel displays the percentage of full load being applied to the UPS. The UPS is now in Normal mode with the load online. See "Normal Mode" on page 50 for more information.

13. If you connected a REPO switch to the UPS, test the switch while the UPS is operating to ensure proper operation.

Press the REPO switch. The UPS shuts down and stops providing power to the equipment. To restart the UPS, follow the startup procedure beginning on page 47.

NOTE If the REPO test fails and the UPS does not shutdown, contact your service representative.

Troubleshooting Tips

If you should encounter any problems during startup, see the troubleshooting chart on page 75.

The battery cabinets are shipped with the batteries charged. However, batteries may lose some of the charge during shipping and storage. You can use the UPS immediately after unpacking, but it may not provide the full-rated backup time during a power failure. Upon initial startup, the UPS may need to operate for approximately 8 hours before the battery is fully charged and full battery-backup time is available. If the Battery Fault indicator flashes, operate the UPS for 24 hours to fully charge the battery.



CHAPTER 4

UPS Operation

This chapter covers the operation of the UPS including front panel functions, operating modes, using the Battery Start feature, shutting down the UPS, and using the PowerPass Distribution Module.

UPS Front Panel

The UPS front panel has three distinct functions:

- Displays the UPS operational mode (Normal, Bypass, or Battery).
- Displays any alarm conditions present during operation (the indicators flash).
- Displays the loading percentage during Normal mode and the battery capacity during Battery mode.

You can also use the front panel to configure UPS communication options. See "Front Panel Communications Access" on page 60.

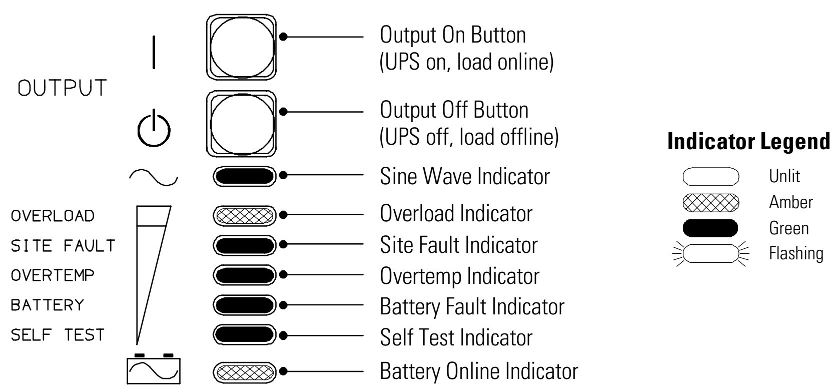


Figure 18. UPS Front Panel

Operating Modes

After you install and apply power to the UPS, the UPS filters and regulates incoming AC power, eliminating noise and voltage spikes, and provides consistent power to your equipment (see Figure 19). While power is applied to the UPS, the maintenance-free battery is automatically kept in a fully-charged condition.

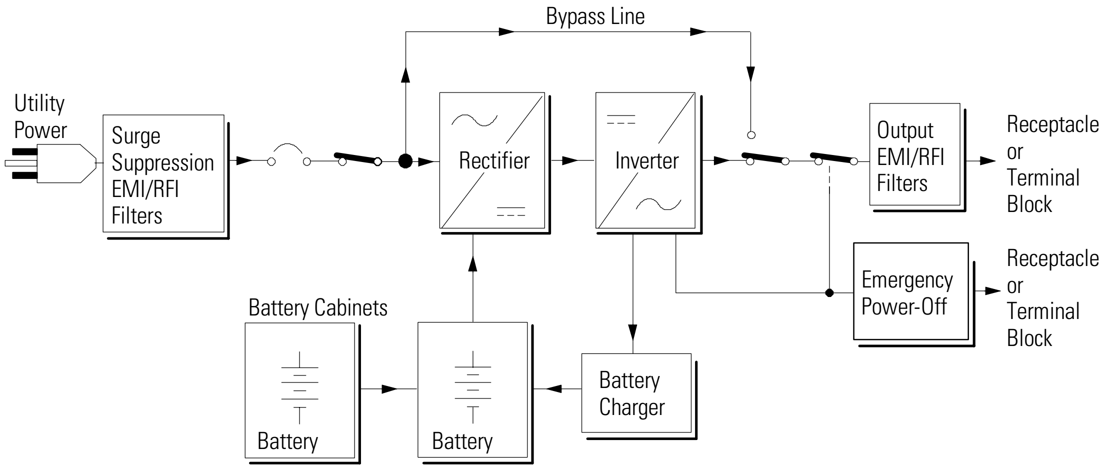


Figure 19. UPS Block Diagram

Normal Mode

During Normal mode, the ∼ indicator illuminates and the front panel displays the percentage of UPS load capacity being used by the protected equipment (see Figure 20).

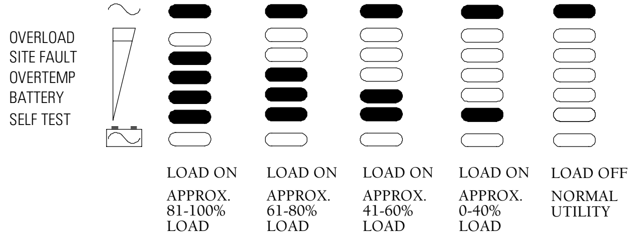


Figure 20. Normal Operation Indicators

Bypass Mode

The ~ indicator and the indicator illuminate simultaneously, indicating Bypass mode (see Figure 21). When the UPS is in Bypass mode, the load is powered by utility power. However, utility power continues to be passively filtered by the UPS.

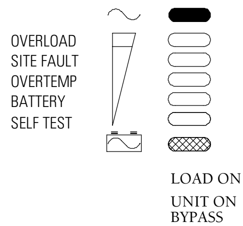


Figure 21. Bypass Operation Indicators

Battery Mode

When the UPS is operating during a power outage, the alarm beeps several times initially, and then once every 10 seconds while in Battery mode. The indicator illuminates. The front panel displays the approximate percentage of battery capacity remaining (see Figure 22). When the utility power returns, the UPS switches to Normal mode operation while the battery recharges.

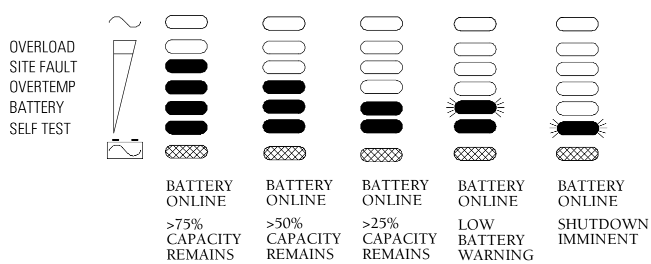


Figure 22. Battery Operation Indicators

If battery capacity becomes low while in Battery mode, the Battery Fault indicator begins to flash and the Self Test indicator remains lit, indicating approximately two minutes before UPS shutdown. The alarm beeps every two seconds.

When shutdown is imminent, the Self Test indicator flashes. These warnings are approximate, and the actual time to shutdown may vary significantly. Once these warnings are indicated, immediately complete and save your work to prevent data loss and similar difficulties. When utility power is restored after the UPS shuts down, the UPS automatically connects to the load when the startup is complete.

Diagnostics

The UPS periodically performs diagnostic tests while the unit is operating in Normal mode, ensuring proper operation. These tests include:

- Self Test
- Utility Verification Test
- Battery Discharge Test
- Over Temperature Test

The UPS also runs a series of over 20 internal tests when power is first applied. If a diagnostic test fails, see Chapter 7, "Troubleshooting" on page 75.

Battery Test on Demand

You can perform a battery test on the UPS while it is operating in Normal mode by pressing the Output | On button. The UPS automatically distributes some of the load to the batteries for 30 seconds and tests the battery's performance.

Battery Start

NOTE Before using this feature, the UPS must have been powered by utility power at least once.

This feature allows you to start the UPS without utility power. After utility power has been unavailable for one minute, press and hold the Output | On button until the alarm beeps.

The UPS supplies power to your equipment and goes into Battery mode. The indicator remains lit and the front panel displays the percentage of battery capacity remaining to the UPS. This process should take about 20 seconds.

UPS Shutdown

Performing a UPS shutdown turns off the power to your protected equipment. Confirm the equipment is prepared for a power-off before shutting down the UPS.

NOTE Do not perform a UPS shutdown if you want to use the Maintenance Bypass feature on the optional PPDM (see "Using the PPDM" on page 54).

To perform a UPS shutdown:

1. Press and hold the Output ⏻ Off button until the long beep ceases (approximately three seconds).

   The ∼ indicator remains lit indicating Normal mode, load offline.

2. Switch the input breaker on the power processing unit to the OFF (O) position.

   The UPS enters Battery mode for several seconds. The ∼ indicator turns off and the UPS shuts down.

3. Unplug or remove utility power from the UPS.
4. When all LEDs are no longer illuminated on the UPS, switch the circuit breaker to the OFF (O) position on each battery cabinet.

Changing the Output Voltage

To change the operating voltage of the UPS:

1. Perform a UPS shutdown as described in the previous section.
2. Select the new voltage (see Step 7 on page 27). If you have a PPDM, see Step 4 on page 41.
3. Restart the UPS by performing a UPS startup as described on page 36. If you have a PPDM, see page 47.

Using the PPDM

The PPDM provides continuous online power for your equipment. With the PPDM, you can replace or upgrade the PPU without losing power to your equipment. Figure 23 shows the operation of the UPS with the PPDM.

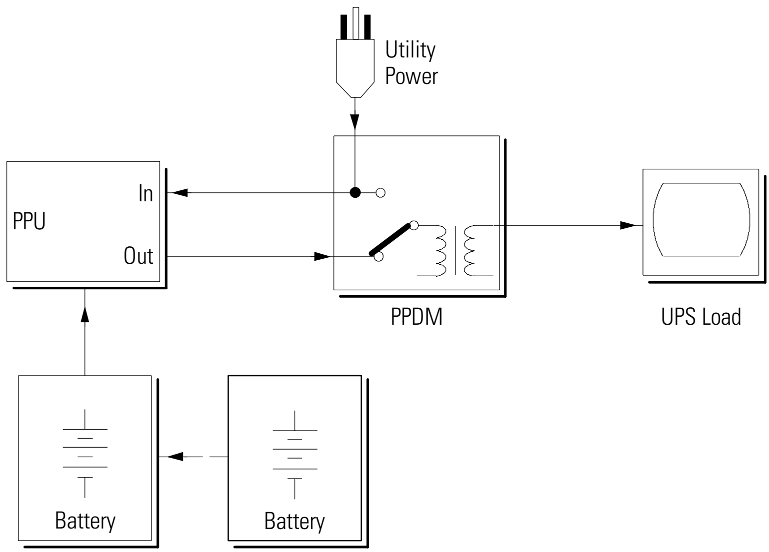


Figure 23. UPS and PPDM Block Diagram

Using Maintenance Bypass

Use the following procedure to transfer the critical load to Maintenance Bypass (AC Line operation) and remove the PPU:

1. Turn the Bypass switch on the PPDM to the BYPASS position (see Figure 24). The PPDM is now powering your equipment from utility power.
2. Press and hold the Output ⏻ Off button until the long beep ceases (approximately three seconds). The ∼ indicator remains lit.
3. Switch the PPU input breaker to the OFF (O) position.

   The UPS enters Battery mode for several seconds. The ∼ indicator turns off and the UPS shuts down.

4. Remove the cord connections to the back of the PPU.
5. Switch the circuit breaker on all battery cabinets to the OFF (O) position.
6. Disconnect the battery connector on the PPU rear panel.
7. Remove the PPU.

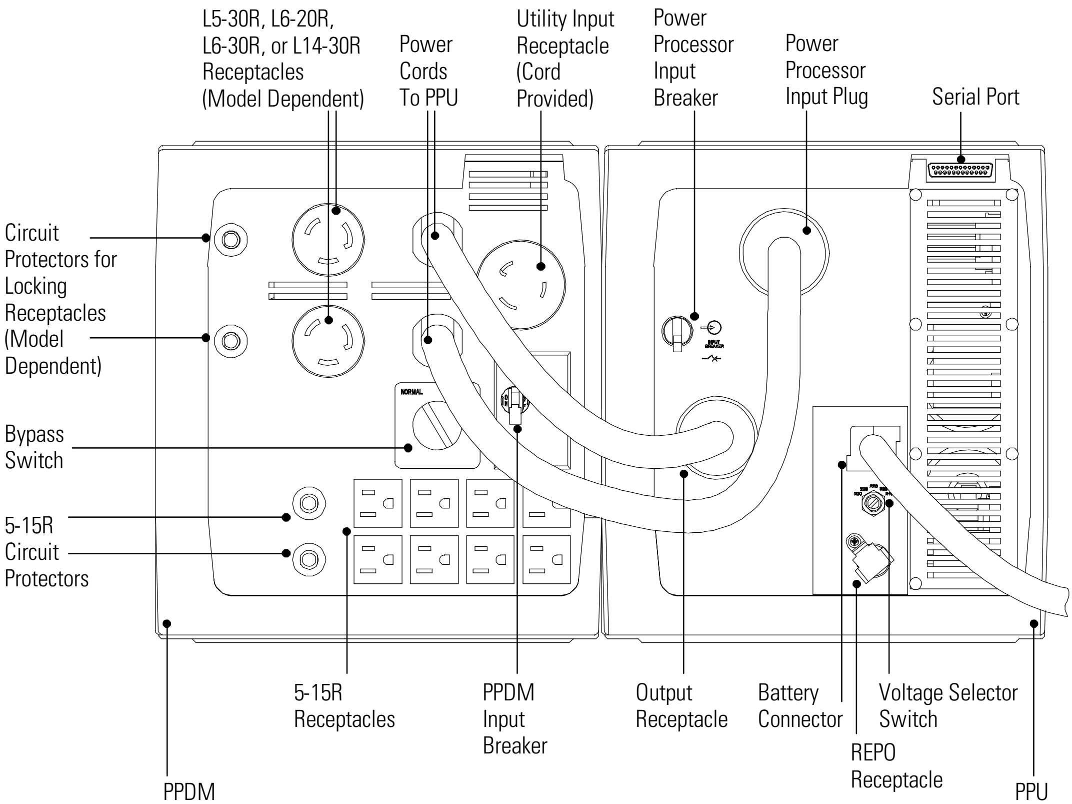


Figure 24. UPS with PPDM Rear Panel Connections

Use the following procedure to reinstall the PPU and transfer the critical load from Maintenance Bypass (AC Line operation) to the PPU:

1. Reconnect the battery cabinet to the battery connector on the PPU rear panel.
2. Switch the circuit breaker on all battery cabinets to the ON (|) position.
3. Confirm the correct UPS output voltage is selected according to the PPDM model:

PPDM Model Number	UPS Voltage Selector Switch Position*
208: 120/208 Hardwired	Set to 208V for 120/208V PPDM output Set to 220V for 127/220V PPDM output (60-Hz units only)
208: 120 L5-30R	208
208: 120/208 L6-20R	208
208: 120/208 L6-30R	208
208: 120/240 L14-30R	208
240: 120/240 Hardwired	Set to 200V for 100/200V PPDM output Set to 220V for 110/220V PPDM output Set to 230V for 115/230V PPDM output Set to 240V for 120/240V PPDM output
240: 120/240 L5-30R	
240: 120/240 L6-20R	
240: 120/240 L6-30R	
240: 120/240 L14-30R	
240: 120/240E Hardwired	

*The UPS output voltage should match local voltages.

Using a screwdriver, turn the switch to the corresponding position of the output voltage required (see Figure 25). The output voltage is factory-set to 220V.

CAUTION

Do not turn the Voltage Selector switch while the UPS is operating (see "Changing the Output Voltage" on page 53). Changing the output voltage while the UPS is operating may cause an emergency power-off.

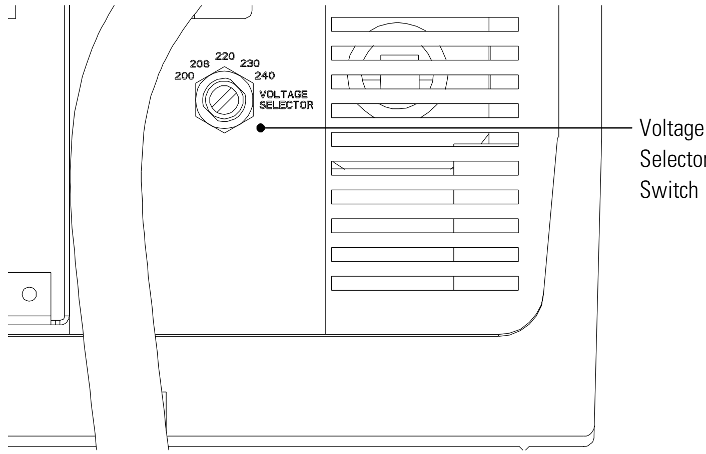
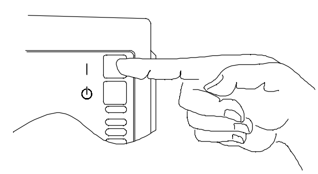


Figure 25. Voltage Selector Switch

4. Plug the input and output cords of the PPDM into the power connectors on the PPU as shown in Figure 24 on page 55.
5. Switch the PPU input breaker to the ON (|) position.

   After a short delay (approximately three seconds), the UPS front panel indicators turn on and cycle through several times. The ~ and [battery] indicators remain lit for several seconds (UPS in Bypass mode).
6. Press and hold the Output | On button until you hear the UPS beep (approximately one second).



   The ~ indicator remains lit and the Self Test indicator turns on.
7. Turn the Bypass switch on the PPDM to the NORMAL position.

   The front panel displays the percentage of full load being applied to the UPS. The UPS is now in Normal mode with the load online.



CHAPTER 5

Communication

The UPS is equipped with a communications interface port that allows communication with a wide variety of external devices including:

- Video or dumb terminal
- Serial printer
- Computer with power management or shutdown software

The serial port enables you to monitor and record diagnostic data with the following communication interfaces:

- Serial Communications Interface
  - Terminal Mode
  - Data Dump Mode
  - Printer Mode, 2400 Baud, with Novell Contacts (default)
  - Printer Mode, 19200 Baud, with Novell Contacts
- LAN Configuration
  - Novell®-Style Network Interface
  - 3Com®-Style Network Interface
  - AS/400®-Style Network Interface
  - Custom User-Configurable Interface

Initial Communications Settings

The UPS is factory-configured for one of several communication interfaces (usually determined by the customer). To determine the initial UPS communications configuration, you can:

- Look at the box label with the serial number (communication mode is shown in the upper right corner).
- Use the Display Configuration option on the UPS Serial Communications Menu (see page 62).
- Call the **Help Desk** at one of the telephone numbers on page 78.

If you want to change the UPS configuration settings, use the front panel or the UPS Serial Communications Menu.

Front Panel Communications Access

Before you access the front panel, review the following configurations and note the indicator that corresponds with the communication mode.

NOTE Only the Printer mode front panel options change the baud rate. Use the UPS Serial Communications Menu to select other baud rates (see page 62).

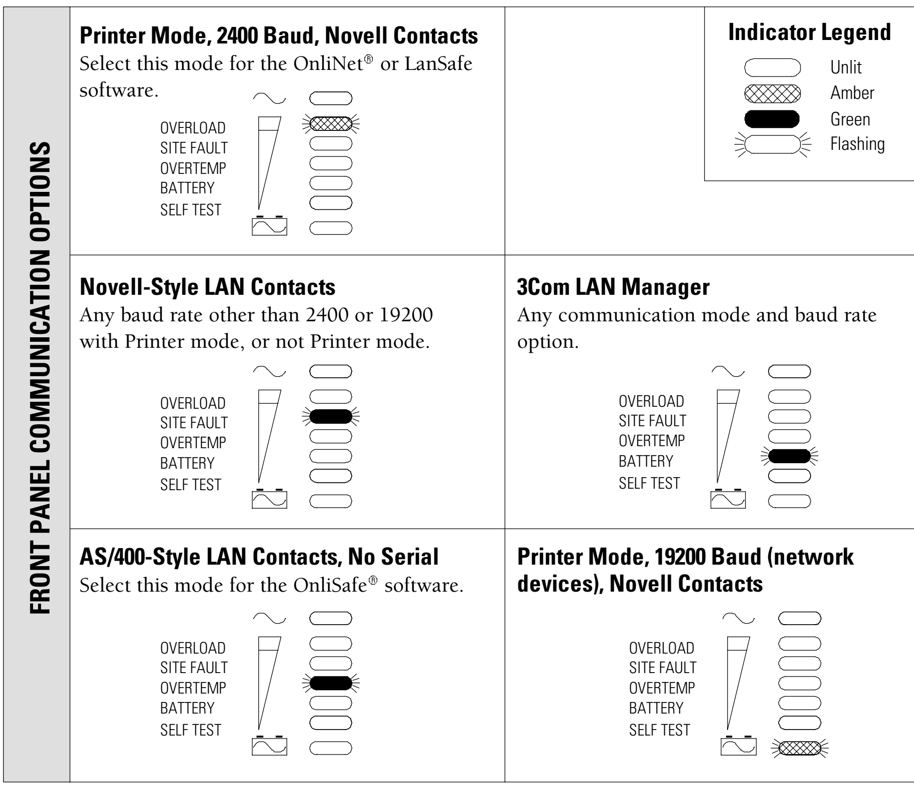


Figure 26. Front Panel Communication Options

To access the front panel communication options, perform the following steps:

1. If the UPS is powered on, prepare your equipment for shutdown.

   Press and hold the Output ⏻ Off button until the long beep ceases (approximately three seconds).

   The ~ indicator remains lit indicating Normal mode, load offline.

   Switch the input breaker on the power processing unit to the OFF (O) position. Wait until all indicators turn off and then continue to the next step.
2. Switch the PPU input breaker to the ON (|) position while pressing the Output ⏻ Off button until the alarm beeps. All indicators begin flashing.
3. Press and hold the Output ⏻ Off button a second time until the alarm beeps again.

   A single indicator, corresponding with the current setting, remains flashing.
4. Press the Output ⏻ Off button to scroll through the communication options, top to bottom. Each time you press the button, the UPS beeps and the next indicator flashes.

NOTE If you do not save a selection within two minutes, the setup automatically aborts and switches back to the original configuration.

5. Press and hold the Output | On button until the alarm beeps to select and save a communication option. Failure to release the button immediately after the beep will cause the UPS to abort the setup.
6. Press the Output | On button again to return the UPS to Normal mode.

NOTE Printer mode selections are the only serial communication modes available from the front panel.

UPS Serial Communications Menu

With the UPS Serial Communications (Main) Menu, you can view or select UPS communication modes, baud rates, and LAN configurations. To change or display the current communications configuration:

1. Connect the UPS serial port to a video monitor with a serial interface or to your computer's serial port. If you are using OnliNet or LanSafe software, the UPS should already be connected to your computer.
2. Set your terminal so that it matches the baud rate of the UPS (usually 2400 baud, 8 bits, No parity, 1 stop bit). Refer to your terminal or operating system documentation for details on configuring the terminal communication settings.
3. At the terminal prompt, press **Control-C** until the UPS Serial Communications Menu appears.

```
UPS SERIAL COMMUNICATIONS MENU
SELECT OPERATION MODE
D  >     DISPLAY CONFIGURATION
1  >     CONTINUOUS DUMP
2  >     POLLED DUMP
3  >     SMART DUMP
A  >     ASCII TERMINAL
B  >     VT100 TERMINAL
P  >     PRINTER DUMP
L  >     LAN CONFIGURATION
Z  >     SET BAUD RATE
Q  >     QUIT WITHOUT SAVING NEW CONFIGURATION
S  >     SAVE AND RESTART
ENTER SELECTION > > >
```

4. Select a menu option by typing the corresponding letter or number key. All menu selections are single keystrokes and are not case-sensitive.

   D > Display Configuration displays the current communication settings and the new settings that you have selected prior to saving them. The new settings are not effective until you select save from the Main Menu.

```
Catalog #:        D15120112520
Serial #:         BK393B0274
Version #:        02.00
COMM mode:        Printer
Baud x100:        024
LAN mode:         Novell

New COMM:         ASCII
New Baud:         096
New LAN:          Novell

Press space bar to continue
```

NOTE Catalog #, Serial #, and Version # are all identification numbers unique to your UPS and can also be found on the UPS nameplate.

1 > Continuous Dump The UPS regularly transmits status information to the computer. Baud rates of 1200 to 2400 are recommended to reduce host computer overhead when using this mode.

2 > Polled Dump Status information is transmitted only when requested by a poll character (Control-E).

3 > Smart Dump Status information is transmitted when polled, as in the previous mode. However, the transmission also occurs automatically whenever UPS status changes. For example, if there is a power outage, UPS status information changes and is therefore, automatically transmitted.

A > ASCII Terminal The UPS displays the formatted data on the attached video terminal.

B > VT100 Terminal The UPS displays the formatted data on the attached video terminal.

P > Printer Dump The UPS prints the formatted data on the attached printer.

L > LAN Configuration allows you to configure the UPS for a new LAN mode and displays the Select LAN Configuration Menu.

```
SELECT LAN CONFIGURATION

1  >     NOVELL
2  >     AS400
3  >     3-COM/LAN MANAGER
4  >     CUSTOM CONFIGURATION
Q  >     TO QUIT THIS MENU

ENTER SELECTION >+>
```

Select the **AS400** option if you are using OnliSafe software to monitor the UPS.

The **Custom Configuration** option has two screens: the first screen has options available for inverter shutdown, and the second screen has options available for the contact configuration. Consult your shutdown software documentation for details on the required signal states for configuring LAN communications.

```
SELECT CUSTOM LAN CONFIGURATION

Instructions: Choose the desired inverter shutdown function.
Warning: It is recommended that this feature should not be
used with normal RS-232 communications, conflicts may occur.

A > Inverter shutdown control is enabled active HIGH (+12V)
B > Inverter shutdown control is enabled active LOW (-12V)
C > Inverter shutdown control is disabled
Q > TO QUIT THIS MENU

ENTER SELECTION >=>
```

```
SELECT CUSTOM LAN CONFIGURATION

Instructions: Choose the desired contact configuration.

1  >  UTIL_FAIL is active closed, LOW_BATT is active closed
2  >  UTIL_FAIL is active open, LOW_BATT is active closed
3  >  UTIL_FAIL is active closed, LOW_BATT is active open
4  >  UTIL_FAIL is active open, LOW_BATT is active open
Q  >  TO QUIT THIS MENU

ENTER SELECTION >=>
```

Z > Set Baud Rate allows you to select a new baud rate. The Select Baud Rate Menu displays a list of baud rate options.

```
              SELECT BAUD RATE

2  >      300
4  >     1200
5  >     2400
6  >     4800
7  >     9600
8  >     19200
Q  >     QUIT THIS MENU

ENTER SELECTION >->
```

5. To save the configuration settings, type **S** at the Main Menu prompt. The UPS operates and communicates under the new configuration, and defaults to these settings each time it is started.

   If you want to abandon the selections you have made, type **Q** to quit.

NOTE Any changes you make to the UPS communications configuration must correspond to the communications equipment you are using. In particular, new baud rate selections for the UPS must match your communications equipment.

Power Management Software

Power management software allows you to monitor UPS operations automatically. To use OnliNet or LanSafe software, the UPS must be configured for any one of the Data Dump, Terminal, or Printer modes; however, Printer mode is preferred.

OnliNet provides multiple levels of UPS monitoring and control, as well as automatic shutdown for many different operating systems. If you have any questions or would like further information, call the **Help Desk** at one of the telephone numbers on page 78.

UPS Communications Interface Port

In addition to configuring the UPS for specific communication options, you must also ensure proper use of the serial port when connecting the UPS to your network or monitoring equipment.

NOTE Semiconductor switch contacts are rated at a maximum current of 50 mA and a maximum of 40 Vdc.

Use only the pins specified for your communications configuration. The use of any additional pins for any of the following interfaces can cause interference with system communications.

Even though your network uses the specified signal lines, the pins assigned to these signals at the network end of the cable may vary with those of the UPS serial port. The connector body and style may vary as well.

NOTE Standard, pin-for-pin cables may not work correctly. Consult your network software or server manuals for system shutdown pin assignments.

The UPS serial port complies with EIA RS-232 standards. RS-232 specifies a maximum cable length of 50 feet (15m). See Figure 27 for the location of the serial port.

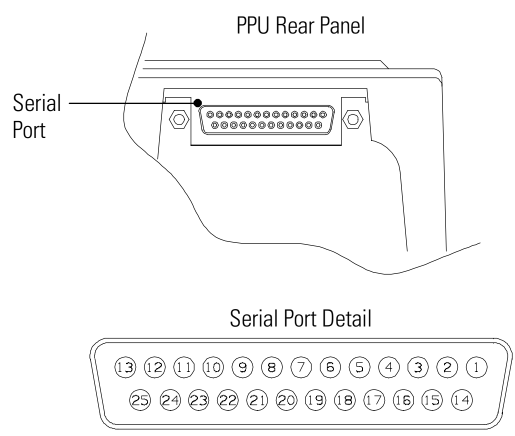


Figure 27. Serial Port Location

Communications Mode Reference Chart

The following chart defines the UPS serial port contacts. Serial communication is not available with 3Com and AS/400 network configurations. Use only the applicable pins for the selected communication mode; otherwise, interference problems may occur.

Communication Mode	Function	Signal Name	Pin No.	True Condition
Serial	Data to UPS	RS232 TxD	2	N/A
	Data from UPS	RS232 RxD	3	N/A
	Signal Ground		7	
Novell (Default)	Battery On	ON.AC	14/16	Open
	Low Battery	TWO.MIN	23/24	Closed
	Signal Ground		7/15/25	
Novell (Custom)	Battery On	ON.AC	14/16	Closed
	Low Battery	TWO.MIN	23/24	Closed
	Signal Ground		7/15/25	
3Com (Default)	Shutdown (Remote)	SHUT.DOWN	2	Positive Voltage
	Low Battery	LOW.BATT	9	Positive Voltage
	Battery On	PWR.FAIL	10	Positive Voltage
	Signal Ground		7	
AS/400	UPS Available	UPS Available	11/13	Closed
	Battery On	Utility Failure	14/16	Closed
	Bypass	UPS Offline	17/19	Closed
	Low Battery	Low Battery	23/24	Closed
	Signal Ground		12/15/18/25	

NOTE Pin numbers separated by a forward slash (/) are connected together internally.



CHAPTER 6

Specifications

Prestige 6000 Specifications

The following model specifications assume:

- 88% efficiency at full load (Normal mode)
- Input power factor of 0.95
- 84% efficiency running on battery

Model 6000 UPS (Nominal Operating Specifications)						
Output VA	Output Voltage	Output Watts	Input Current	Output Current	Normal (BTUs/hr)	On Battery (BTUs/hr)
5000	200	3350	19.6A	25.0A	< 1600	< 2200
5200	208	3500	19.7A	25.0A	< 1600	< 2300
5500	220	3700	19.7A	25.0A	< 1700	< 2400
5750	230	3850	19.6A	25.0A	< 1800	< 2500
6000	240	4000	19.5A	25.0A	< 1900	< 2600

Model 6000 UPS with PPDM (Nominal Operating Specifications)				
Output VA (PPU)	Output Voltage (PPU)	Output Watts	Normal (BTUs/hr)	On Battery (BTUs/hr)
5000	200	3050	< 2600	< 3200
5200	208	3200	< 2600	< 3300
5500	220	3400	< 2700	< 3400
5750	230	3550	< 2800	< 3500
6000	240	3700	< 2900	< 3600

Model 4500 UPS (Nominal Operating Specifications)						
Output VA	Output Voltage	Output Watts	Input Current	Output Current	Normal (BTUs/hr)	On Battery (BTUs/hr)
3750	200	2500	14.6A	19.0A	< 1200	< 1600
3900	208	2600	14.6A	19.0A	< 1200	< 1700
4125	220	2750	14.6A	19.0A	< 1300	< 1800
4300	230	2900	14.6A	19.0A	< 1400	< 1900
4500	240	3000	14.6A	19.0A	< 1400	< 1900

Model 4500 with PPDM (Nominal Operating Specifications)				
Output VA (PPU)	Output Voltage (PPU)	Output Watts	Normal (BTUs/hr)	On Battery (BTUs/hr)
3750	200	2275	< 1900	< 2400
3900	208	2375	< 2000	< 2400
4125	220	2525	< 2000	< 2500
4300	230	2675	< 2100	< 2600
4500	240	2775	< 2200	< 2700

Physical Specifications

Parameter	PPU	Battery Cabinet	PPDM
Height	283 mm (11.13 in)	142.5 mm (5.61 in)	283 mm (11.13 in)
Width	252 mm (9.91 in)	252 mm (9.91 in)	252 mm (9.91 in)
Depth	Plug/Receptacle: 406 mm (16 in) Hardwired: 463 mm (18.25 in)	400 mm (15.75 in)	Plug/Receptacle: 406 mm (16 in) Hardwired: 463 mm (18.25 in)
Weight	18 kg (39 lb)	23.6 kg (52 lb)	37 kg (82 lb)

Technical Specifications

Input Voltage Range	170 to 276 Vac
Input Power Factor	0.95 Typical
Frequency Range	50/60 Hz ±3 Hz
Surge Protection	IEC 801-4
Output Waveform	Sine wave
Output Voltage	200/208/220/230/240 Vac ±3%
Common Mode Noise Rejection	>60 dB @ 100 kHz
Transverse Mode Noise Rejection	>80 dB @ 100 kHz
Input Cord	Detachable 2-meter cord
Outlets	One L6-30R
Batteries (10 per cabinet)	12 Vdc, 5 Ah, maintenance-free rechargeable lead acid
Battery Cabinet Voltage	120 Vdc
Operating Environment	Temperature: 10°C to 40°C (50°F to 104°F) Humidity: 5 to 95% (noncondensing)
Agency Approvals	Safety: EN50091-1 UL 1778 cUL EMC: FCC Part 15 Class A EN50091-2

Electrical Specifications for the Prestige 6000 with PPDM

Use the following tables to determine load wiring requirements when the PPDM is used with the UPS. The distribution of your load on the available outputs of the PPDM may affect the maximum load obtainable.

Prestige 6000 PPDM Ratings with a Model 6000 UPS				
PPDM Model	Input Utility Voltage and Selected UPS Output Voltage	Input Current	Output Voltage and Maximum Current	Maximum Output Apparent Power**
208:120/208 Hardwired	220 Vac (60 Hz only)	24A	127/220 Vac (60 Hz only), 30.0/25.0A	5500 VA
208:120/208 Hardwired	208 Vac	24A	120/208 Vac, 30.0/25.0A	5200 VA
208:120 L5-30R	208 Vac	24A	120 Vac, 43.3A*	5200 VA
208:120/208 L6-20R	208 Vac	24A	120/208 Vac, 15.0/20.0A	5200 VA
208:120/208 L6-30R	208 Vac	24A	120/208 Vac, 15.0/25.0A	5200 VA
208:120/240 L14-30R	208 Vac	24A	120/240 Vac, 15.0/21.1A	5000 VA
240:120/240 Hardwired	200 - 240 Vac	25A	100 - 120/200 - 240 Vac, 30.0/25.0A	6000 VA
240:120/240E Hardwired	200 - 240 Vac	24A	100 - 120/200 - 240 Vac, 30.0/25.0A European IT Neutral	6000 VA
240:120 L5-30R	200 - 240 Vac	24A	100 - 120 Vac, 48.3A*	5800 VA
240:120/240 L6-20R	200 - 240 Vac	24A	100 - 120/200 - 240 Vac, 15.0/20.0A	5800 VA
240:120/240 L6-30R	200 - 240 Vac	24A	100 - 120/200 - 240 Vac, 15.0/24.7A	5800 VA
240:120/240 L14-30R	200 - 240 Vac	24A	100 - 120/200 - 240 Vac, 15.0/24.7A	5800 VA

*****Total of currents in all available 100 - 120V output connections.
******Ratings based on 4000W load on PPDM, plus sufficient linear inductive load to achieve the current rating of the input plug, not to exceed VA rating of PPU.

NOTE Input and output currents are approximately the same when load is powered through bypass.

Prestige 6000 PPDM Ratings with a Model 4500 UPS				
PPDM Model	Input Utility Voltage and Selected UPS Output Voltage	Input Current	Output Voltage and Maximum Current	Maximum Output Apparent Power**
208:120/208 Hardwired	220 Vac (60 Hz only)	24A	127/220 Vac (60 Hz only), 30.0/25.0A	4125 VA
208:120/208 Hardwired	208 Vac	24A	120/208 Vac, 30.0/25.0A	3900 VA
208:120 L5-30R	208 Vac	24A	120 Vac, 43.3A*	3900 VA
208:120/208 L6-20R	208 Vac	24A	120/208 Vac, 15.0/20.0A	3900 VA
208:120/208 L6-30R	208 Vac	24A	120/208 Vac, 15.0/25.0A	3900 VA
208:120/240 L14-30R	208 Vac	24A	120/240 Vac, 15.0/21.1A	3900 VA
240:120/240 Hardwired	200 - 240 Vac	25A	100 - 120/200 - 240 Vac, 30.0/25.0A	3750 VA @ 200V 4125 VA @ 220V 4300 VA @ 230V 4500 VA @ 240V
240:120/240E Hardwired	200 - 240 Vac	24A	100 - 120/200 - 240 Vac, 30.0/25.0A European IT Neutral	4500 VA @ 120V 4500 VA @ 240V
240:120 L5-30R	200 - 240 Vac	24A	100 - 120 Vac, 48.3A*	4500 VA @ 120V 4500 VA @ 240V
240:120/240 L6-20R	200 - 240 Vac	24A	100 - 120/200 - 240 Vac, 15.0/20.0A	4500 VA @ 120V 4500 VA @ 240V
240:120/240 L6-30R	200 - 240 Vac	24A	100 - 120/200 - 240 Vac, 15.0/24.7A	4500 VA @ 120V 4500 VA @ 240V
240:120/240 L14-30R	200 - 240 Vac	24A	100 - 120/200 - 240 Vac, 15.0/24.7A	4500 VA @ 120V 4500 VA @ 240V

*****Total of currents in all available 100 - 120V output connections.
******Ratings based on 4000W load on PPDM, plus sufficient linear inductive load to achieve the current rating of the input plug, not to exceed the real-power or apparent-power rating of the PPU.

NOTE Input and output currents are approximately the same when load is powered through bypass.



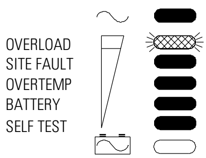
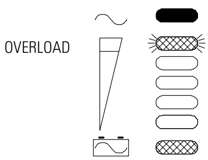
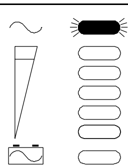
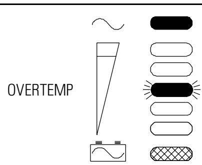
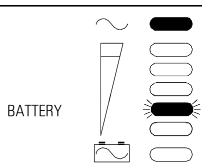
CHAPTER 7
TROUBLESHOOTING

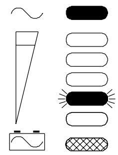
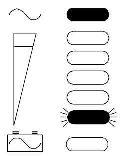
The Prestige UPS is designed for durable, automatic operation and also alerts you whenever potential operating problems may occur. Use the following troubleshooting chart to determine the UPS alarm condition.

Indicator Legend

- Unlit
- Amber
- Green
- Flashing

Condition	Possible Cause	Action
UPS does not turn on.	UPS is not connected correctly to the power source.	Check connections to the power source.
	UPS input breaker is off.	Reduce load, then reset breaker.
Load does not turn on.	UPS has not been activated.	Press the Output │ On button for one second, then release.
UPS beeps occasionally.	Normal operation.	None. UPS is protecting your equipment.
indicator remains lit, even though line voltage is present.	Utility line is out of specification.	Test wall socket, repair as required.
	UPS input breaker is tripped.	Reduce load, then reset breaker.
UPS does not provide the expected backup time.	Battery circuit breakers are in the OFF (O) position.	Switch the battery circuit breaker to the ON (│) position for all connected battery cabinets.
	Low battery capacity.	Allow battery to charge for 24 hours, then retest.
	Protected equipment power requirements exceed UPS capacity.	Reduce load, then retest.
Communications do not function properly.	Incorrect communications cabling.	Verify cable integrity (see page 66).
	Incorrect baud rate.	Select a new baud rate (see page 65).
	Incorrect communication mode.	Select a new communication mode (see Chapter 5).

Condition	Possible Cause	Action
Remote Emergency Power-Off switch does not shut down the UPS.	REPO switch is not wired properly.	Check connections and contact your service representative.
PowerPass Distribution Module does not deliver expected voltage.	Voltage Selector switch on the power processing unit is not set properly.	Shut down the UPS (see page 53). Select proper voltage position (see page 41) and restart the UPS (see page 47).
	Circuit protectors or input breakers on the PPDM are tripped or off.	Check the load for a fault condition, then reset circuit protectors or input breaker.
	Power requirements exceed UPS capacity. If overload is greater than 105%, the alarm beeps every second and the UPS may switch to Bypass mode.	Your UPS continues to operate. Reduce load.
	The UPS switched to Bypass mode because the overload increased (above 105%). The alarm beeps.	Reduce load. If the Overload indicator remains lit, reset the UPS by pressing the Output | On button until the alarm beeps. You may need to obtain a larger capacity UPS.
	The utility line voltage and frequency are out of specification.	The inverter remains online, deriving power from the utility until it is no longer acceptable. Check the unit configuration. Refer to the product specifications (see page 69).
	UPS internal temperature is too high. The alarm beeps and the UPS switches to Bypass mode for approximately 10 minutes, allowing the UPS to cool down.	Shut down the UPS. Clear vents. Remove any heat sources. Wait approximately 5 minutes and retry. Contact your service representative if condition persists.
	Weak battery while in Normal mode. The alarm beeps.	Allow the battery to charge for 24 hours, then retest. Have batteries replaced if condition persists.
	Battery breaker open (O).	Verify that the battery cabinet breaker is in the ON (|) position.
	Battery cabinet is not properly connected to the UPS.	Verify that the battery cords are connected.

Condition	Possible Cause	Action
BATTERY 	Weak battery while in Bypass mode.	This usually indicates that the batteries need replacing or the UPS requires service. Contact your service representative.
SELF TEST 	Self Test failure. UPS internal problem.	The UPS may switch to Bypass mode, depending on the circumstances. Reset the UPS by pressing the Output | On button until the alarm beeps. Contact your service representative if condition persists.

Resetting the UPS

To reset the UPS while an alarm condition is present, press the Output | On button until the UPS alarm beeps.

Silencing the Alarm

To silence the alarm for an existing fault, press and hold the Output | On button for one second. The alarm becomes quiet. If UPS status changes, the alarm beeps, overriding previous alarm silencing. Press the Output | On button again to silence the alarm.

Service and Support

The troubleshooting chart on page 75 covers most of the difficulties you may encounter during normal operations. If you have any questions or problems with the UPS, call your **Local Distributor** or the **Help Desk** at one of the following telephone numbers and ask for a UPS technical representative.

In the United States:	**1-800-365-4892** or **1-919-870-3149**
Europe, Middle East, Africa:	**+44-17 53 608 700**
Asia:	**+852-2830-3030**
Australia:	**+61-3-9706-5022**

Please have the following information ready when you call the Help Desk:

- Model number
- Serial number
- Version number (if available)
- Date of failure or problem
- Symptoms of failure or problem
- Customer return address and contact information

If repair is required, you will be given a Returned Material Authorization (RMA) Number. This number must appear on the outside of the package and on the Bill Of Lading (if applicable). Use the original packaging or request packaging from the Help Desk or distributor. Units damaged in shipment as a result of improper packaging are not covered under warranty. A replacement or repair unit will be shipped, freight prepaid for all warrantied units.

NOTE For any warranty claim to be valid, the Warranty Registration Card must be on file, or Proof and Date of Purchase must be returned with the failed unit.

For critical applications, immediate replacement may be available. Call the **Help Desk** for the dealer or distributor nearest you.



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